

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

MIAMI INTERNATIONAL
HOLDINGS INC.; MIAMI
INTERNATIONAL SECURITIES
EXCHANGE, LLC; MIAX PEARL,
LLC; AND MIAMI INTERNATIONAL
TECHNOLOGIES LLC,

Plaintiffs,

v.

NASDAQ, INC.; NASDAQ ISE, LLC;
AND FTEN, INC.,

Defendants.

Civil Action No.: _____

(Filed Electronically)

COMPLAINT AND DEMAND FOR JURY TRIAL

Plaintiffs Miami International Holdings, Inc. (“MIH”), Miami International Securities Exchange, LLC (“MIAX Options”), MIAX PEARL, LLC (“MIAX PEARL”), and Miami International Technologies, LLC (“MIAX Technology”) (collectively, “MIAX” or “Plaintiffs”) bring this action against Defendants Nasdaq, Inc., Nasdaq ISE LLC, and FTEN, Inc. (collectively, “Nasdaq” or “Defendants”) and allege as follows:

INTRODUCTION

“We’re coming after you.”

1. Those were the exact words spoken by Nasdaq’s then-Vice Chairman, Meyer “Sandy” Frucher, in front of several witnesses during an options industry conference in May 2015, where the superior performance of MIAX’s high-performance electronic trading technology and its success in winning significant market share from Nasdaq was receiving broad interest. Frucher followed up this overt threat with “[e]njoy it while you can.”

2. This was not the only time a Nasdaq executive threatened to destroy rival MIAX. In fact, there were multiple threats. At virtually every financial exchange industry conference in 2015 and 2016 they both attended, Frucher ambushed MIAX’s Chairman and CEO, Thomas Gallagher, to threaten, intimidate and harass him.

3. Frucher had already guided Nasdaq’s multi-pronged strategy to dominate the market for high performance electronic trading systems used by financial exchanges, and to crush any rivals who threatened its position in the market. And Nasdaq continued this strategy when on September 1, 2017, Nasdaq sued MIAX, alleging patent infringement and misappropriation of trade secrets. *Nasdaq, Inc. et al. v. Miami International Holdings Inc., et al.*, United States District Court for the District of New Jersey, No. 3:17-cv-06664 (“Nasdaq Lawsuit”).

4. Nasdaq's predatory intent in suing MIAX was transparent. Indeed, "[w]hat is one to do when their monopoly power and cash cows are threatened? Send in the lawyers that's what! . . . Sue Everybody!"¹ was just one reaction in the trading industry when Nasdaq filed its meritless intellectual property claims against MIAX and, shortly thereafter, rival IEX Group.

5. Nasdaq's baseless patent claims were predicated upon six Nasdaq patents, each of which the Patent Trial & Appeal Board ("PTAB") invalidated following extensive proceedings. These claims, coupled with Nasdaq's equally frivolous trade secret misappropriation claims, are just a part of Nasdaq's scheme to foreclose MIAX and other competitors from the market.

6. Nasdaq's intent in launching and maintaining sham litigation, and implementing other elements of its predatory scheme, is to shield its dominant market position from the threat posed by a nascent competitor: a competitor that offers technology that is demonstrably and significantly superior, and can be operated at a lower cost.

7. The fact that MIAX's technology is vastly superior to Nasdaq's is not just MIAX's opinion. It is an opinion shared by leading industry groups who have consistently recognized the superiority of MIAX's technology with award after

¹ "Nasdaq and IEX – Sue Everybody!" Themis Trading LLC, *available at* <https://blog.themistrading.com/2018/03/nasdaq-and-iex-sue-everybody/> (March 2, 2018).

award, year after year. Those awards recognize that MIAX's technology is the best in the business. This view is also shared by numerous Nasdaq customers and potential customers, who told Nasdaq that MIAX had set a new and higher bar in product performance.

8. The superiority of MIAX's technology was also recognized by the largest and most influential financial services firms, including Bank of America Merrill Lynch (BAML) and Morgan Stanley, who took equity interests in MIAX; first in 2013, and then again in early 2015. As a result of MIAX's stunning growth, major international exchanges were interested in meeting with MIAX to discuss licensing its technology.

9. Accordingly, by May 2015, when Sandy Frucher made his threat, MIAX's multiple industry awards, the substantial interest it was receiving from potential customers, its substantial increase in exchange market share, and its partnerships with leading financial services companies, made crystal clear to Nasdaq that it faced a substantial competitive threat from MIAX: a threat that Nasdaq decided needed to be dealt with by any means possible.

10. The baseless nature of Nasdaq's September 2017 infringement claims and its reason for filing them is evident not just by the fact that the PTAB has invalidated every one of Nasdaq's asserted patents (a total of over 100 claims in six patents), but also by the fact that Nasdaq knew at the time it filed those claims that

MIAX had independently developed, adopted and brought to market a host of innovative technology solutions that rendered MIAX's technology far superior to Nasdaq's.

11. Nasdaq knew that by filing its meritless lawsuit, and telling MIAX's potential customers that MIAX had "stolen" its technology, it would succeed in chilling customers' preference for MIAX's products. Nasdaq was well aware that merely by filing its claims – despite their lack of actual merit – the inevitable effect would be that financial exchanges would not risk acquiring MIAX's products.

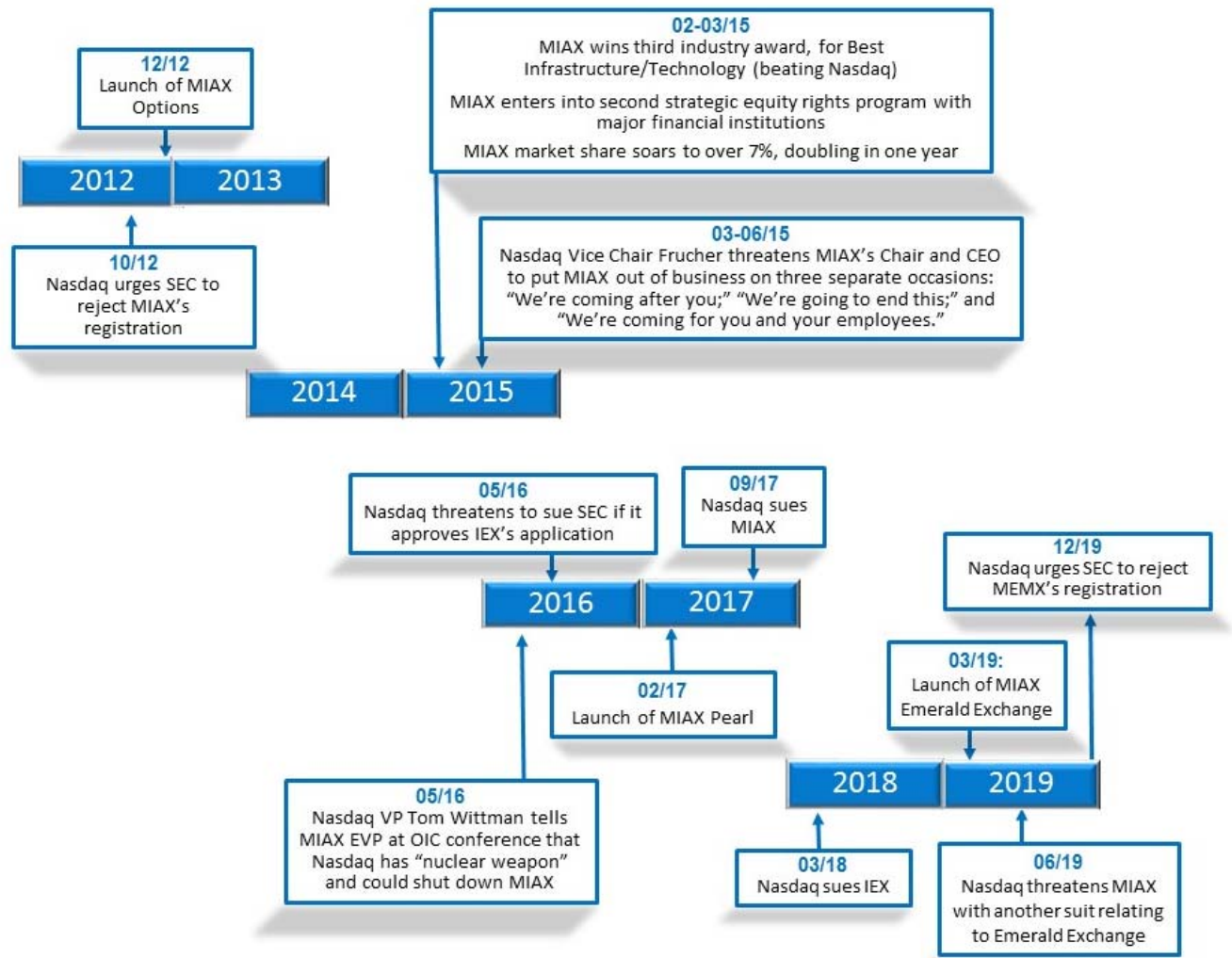
12. It therefore is no coincidence that Nasdaq launched its spurious claims just as MIAX was about to close a deal with a major customer; a customer that Nasdaq competed to land and hoped to add to its lengthy list of clients. Nasdaq's success in deterring this and other customers from acquiring MIAX's electronic trading system technology through the filing of sham claims and other predatory conduct is one reason that MIAX brings these antitrust claims.

13. But engaging in sham litigation and disparaging MIAX were just two elements of Nasdaq's anticompetitive strategy. That strategy began well before Nasdaq filed the sham claims, when Nasdaq first tried to block MIAX (and, ultimately, two other nascent competitors) from approval by the Securities and Exchange Commission ("SEC") as a registered securities exchange.

14. Nasdaq also has executed a deliberate strategy of buying up trading technology competitors, as well as suppliers of ancillary products. Now, armed with the ability to offer “one-stop-shopping” to its financial market customers, Nasdaq also succeeds in foreclosing MIAX and other companies from the market by offering a discounted bundle of products used by financial exchanges for trading financial instruments and related services. Nasdaq, by exploiting the high costs of switching an electronic trading system once a customer has purchased and integrated a system in its exchange, is then able to raise its prices for the ongoing services that it provides to those locked-in customers.

15. Thus, armed with its fraudulent patents and the technology that it acquired through myriad acquisitions, Nasdaq has enjoyed an ill-gotten, dominant position in the high-performance electronic trading systems market for many years. Its nearly decade-long predatory campaign to protect that position can be summarized as follows:

NASDAQ FORECLOSURE SCHEME



16. While Nasdaq has not succeeded in putting MIAX out of business, it has already inflicted – and continues to inflict – substantial damage upon the market and its customers by foreclosing MIAX and its superior trading system products and technology from the market, and by imposing on customers extra costs that they would not have incurred in a competitive market.

17. MIAX's claims seek to hold Nasdaq accountable for its bad faith assertion of litigation against MIAX, for having engaged in fraud and other wrongful acts, and for other predatory conduct that was intended to, and did, harm competition and customers.

THE PARTIES

18. Plaintiff MIH is a corporation organized under the laws of the State of Delaware, with its principal place of business at 7 Roszel Rd., Suite 1A, Princeton, New Jersey 08540.

19. Plaintiff MIAX Options is a limited liability company organized under the laws of Delaware, with its principal place of business at 7 Roszel Rd., Suite 1A, Princeton, New Jersey 08540 and a wholly owned subsidiary of MIH.

20. Plaintiff MIAX PEARL is a limited liability company organized under the laws of Delaware, with its principal place of business at 7 Roszel Rd., Suite 1A, Princeton, New Jersey 08540 and a wholly owned subsidiary of MIH.

21. Plaintiff MIAX Technology is a limited liability company organized under the laws of Delaware, with its principal place of business at 7 Roszel Rd., Suite 1A, Princeton, New Jersey 08540 and a wholly owned subsidiary of MIH.

22. Upon information and belief, Nasdaq, Inc. is a corporation organized and existing under the laws of the State of Delaware, with a corporate office at One Liberty Plaza, 165 Broadway, New York, New York 10006.

23. Upon information and belief, Nasdaq ISE, LLC is a limited liability corporation organized and existing under the laws of the State of Delaware, having its principal place of business at One Liberty Plaza, 165 Broadway, New York, New York 10006. Nasdaq ISE, LLC is a wholly-owned subsidiary of Nasdaq Inc. (through U.S. Exchange Holdings, Inc.).

24. Upon information and belief, FTEN, Inc. is a corporation organized and existing under the laws of the State of Delaware, having its principal place of business at One Liberty Plaza, 165 Broadway, New York, New York 10006. FTEN is a wholly-owned subsidiary of Nasdaq Inc.

NATURE, JURISDICTION, AND VENUE

25. This action arises under the antitrust laws of the United States and the State of New Jersey, particularly Section 2 of the Sherman Act (15 U.S.C. §§ 2), Sections 3, 4 and 16 of the Clayton Act, 15 U.S.C. §§ 15 and 26, and the New Jersey Antitrust Act (N.J. Stat. Ann. 56:9-1 *et seq.*).

26. This Court has subject matter jurisdiction with respect to the federal law claims pursuant to 28 U.S.C. §§ 1331, 1337, and 1338. This Court has subject matter jurisdiction with respect to the state law claims pursuant to 28 U.S.C. §1367(a).

27. Venue is proper in this judicial district under 28 U.S.C. § 1391(b) and 1391(c).

28. Nasdaq is engaged in, and its activities substantially affect, interstate trade and commerce. Upon information and belief, Nasdaq's Second Quarter 2021 net revenues in the United States were over \$800 million.

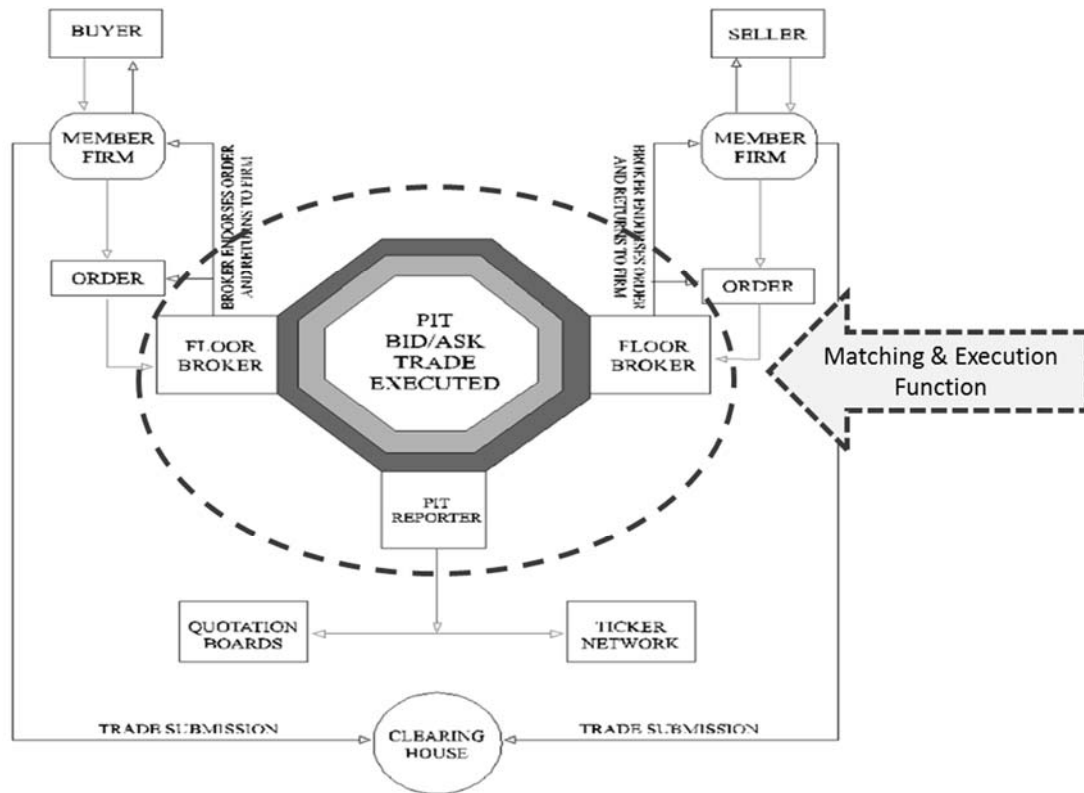
INDUSTRY BACKGROUND

Growth of the Electronic Trading Industry

29. All significant securities trading exchanges organized as physical trading floors relied upon traders gathering on the floor of the exchange to buy and sell securities. A "security" is a fungible, tradable financial instrument, such as an equity (an ownership interest held by shareholders in a company), a derivative (an instrument that derives its value from commodities or other security value), or an option contract (a derivative security whose value depends on the value of an underlying asset).

30. Floor trading for a particular security at an exchange, such as at the London Stock Exchange or the New York Stock Exchange, historically took place at assigned, fixed locations on the trading floor. Each assigned location is referred to as a "pit" or a "post" depending on the exchange. Market participants gathered around the pit or the post to buy and sell the particular security assigned to that location. At the location, floor brokers or specialists would shout out or use hand signals to communicate buy and sell orders in view of the market participants. This frenetic, chaotic, and typically very loud activity is known as "open outcry." The matching and execution of security orders was done manually, typically following

rules of price (almost always first), time, and volume priority. Below is a schematic of the floor of an options exchange:



31. With the advent of computer-driven, electronic trading platforms approximately fifty years ago, physical trading floors have been all but completely replaced by electronic exchanges, which today can handle more trades faster, more accurately, and less expensively than old fashioned trading on physical trading floors. Electronic exchanges rely, at their core, upon an electronic trading system that matches buyers with sellers for particular financial instruments, and then executes those trades. These high-performance trading systems, in turn, have at their core high-performance matching engines made up of processors containing one or

more algorithms to match trades among competing bids and offers at the same price and quantity of a particular financial security, such as an options contract, stock or bond. Such matching engines handle the matching of bids and asks, and trade execution that were handled in the pit (or at the post) shown in the above schematic.

32. A high-performance matching engine is, at its most basic, an “algorithm that performs order matching according to a set of rules governing the priority of submitted bids and offers.”² The high-performance electronic trading system also includes customer application programming interfaces to receive securities orders and quotes from market participants, market data input from the options and equity Securities Information Processors (SIPs) or other sources, and market data dissemination modules.

33. Many market participants who trade on electronic exchanges demand the speed and efficiency provided by high-performance electronic trading systems. This is because timing is critical in trading securities, and such systems can handle more transactions, and deter collusion and cheating. For example, the introduction of high-performance electronic trading systems reduced the speed of trade execution from minutes to seconds to milliseconds to nanoseconds.

² “A taxonomy of automated trade execution systems,” *Journal of International Money and Finance*, 12, 607-631 at 614 (1993).

34. It was, in fact, Instinet, which introduced the electronic trading platform to the world in 1969.”³ The Instinet trading platform grew rapidly in the mid-1980s, and by 1992, Instinet expanded internationally and was operating in over 20 world markets and had grown revenues to approximately \$100 million.⁴ Instinet dominated the market for electronic trading systems at that time.

35. In 2002, Instinet merged with Island, which had a uniquely fast (for the time) matching engine providing customers with significantly faster transaction speeds. After the merger, the platform was renamed INET.⁵ At the time, Instinet sold a trade message routing system used by brokers, establishing a vast and ready pipeline for selling Island’s trading platform. This merger of two rival electronic exchange platforms, was reported to give Instinet “a leg-up to compete with the Nasdaq Stock Market for order flow.”⁶

36. The sophisticated, high-performance electronic trading systems sold today to exchanges are typically customized to meet the needs of the particular exchange. However, high-performance electronic trading systems typically include

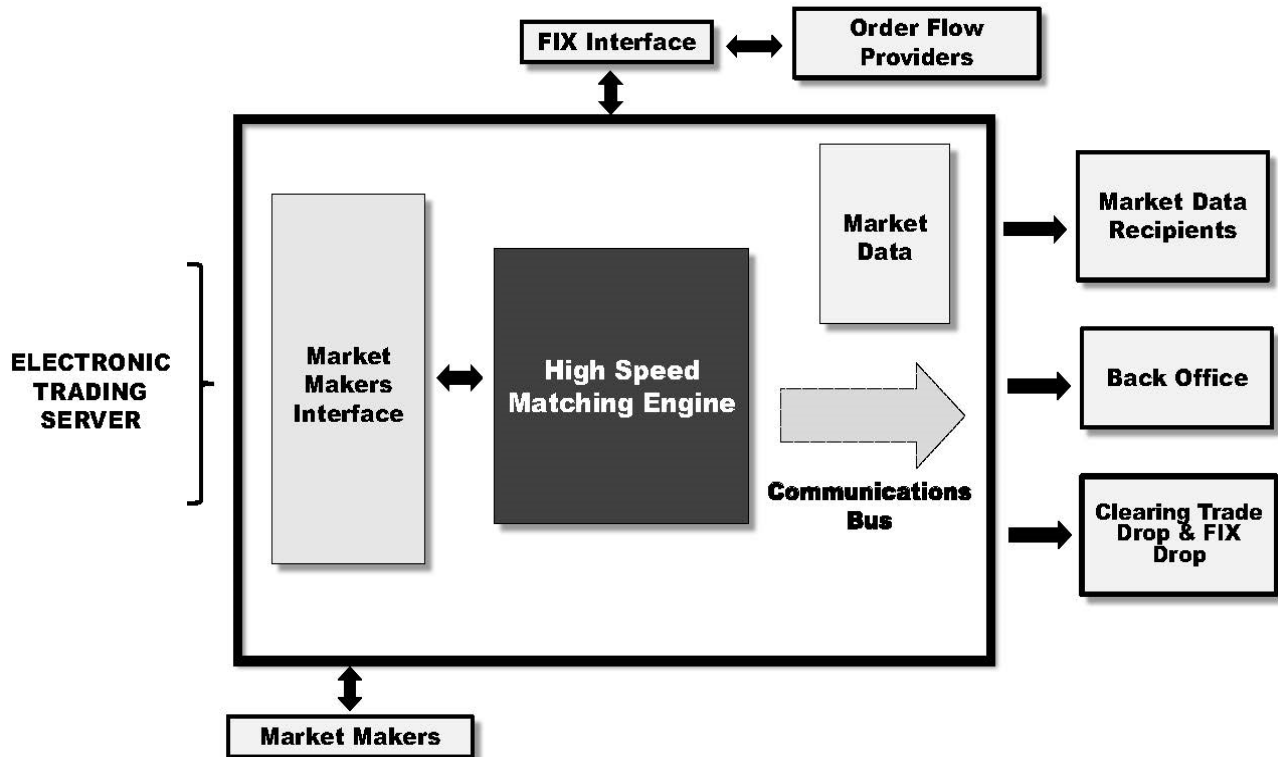
³ “Agents of Change”, *available at* <https://www.instinet.com/about>.

⁴ Instinet Corp., Encyclopædia.com, *available at* <http://www.encyclopedia.com/books/politics-and-business-magazines/instinet-corporation/>.

⁵ *Erin Joyce*. "Instinet Acquires Island ECN," *internetnews.com*, *available at* <https://www.internetnews.com/it-management/instinet-acquires-island-ecn/> (June 10, 2002).

⁶ *Id.*

at their core, matching engine technology, as well as several additional features that are required for the system to function properly. A high-performance electronic trading system today can schematically be represented as follows:



37. A Customer Interface provides a point of entry into the high-performance electronic trading system for market makers. A market maker is generally a firm who actively quotes a two-sided market in a security by providing both bids to buy and offers to sell along with the market size for each. The high-performance electronic trading system can also have a different point of entry for order flow providers, such as by the FIX interface shown above. Order flow

providers are typically third party trading firms who submit either proprietary security orders or agency orders on behalf of their customers to the high-performance electronic trading system for trade execution. Regardless of whether the customer is a market maker or an order flow provider, and which interface is the gateway into the high-performance electronic trading system, all securities orders are routed to a high-performance matching engine.

38. At the core of the system, thus, is a high-speed matching engine with the processor(s) containing the algorithm(s) that match bids and asks according to the exchange's execution rules. The other necessary functions closely associated with the matching engine itself include (1) the customer interfaces for order and quote input; (2) input and storage of current market data from, for example, a high speed ticker; (3) dissemination of completed trades and other market information to other applications, such as market data reporting, clearing trade and order drops, back office drops for billing, reporting, and other functions; and (4) middleware, which provides communication connectivity between different components or applications of the system. The high-performance electronic trading system is typically integrated with a back office system.

39. The back office system provides configuration inputs, such as system configuration data, as well as reference data to the trading system. All orders and trades are typically sent to the back office for storage and processing. The back

office can also provide other functions that are not part of the high-performance electronic trading system, such as billing, trade clearing, and regulatory compliance, for example.

40. It is also possible for an exchange to purchase, along with the high-performance trading system itself, analytical software/services, such as trading simulation, and risk management software, from another supplier. But the above graphic is reflective of a typical high-performance electronic trading system today, along with the ancillary capabilities most closely associated with the matching function (as opposed to other functions).

Nasdaq's Entry and Role in the Market

41. In 2005, Nasdaq acquired Instinet for nearly \$2 billion, establishing itself as the dominant supplier of electronic trading systems worldwide.⁷

42. Also in 2005, Nasdaq embarked on a global financial market expansion plan with an effort to purchase the London Stock Exchange in 2005. Although its effort failed, it wound up with a 28% stake in LSE.

43. Then, in 2008, Nasdaq made another significant acquisition with its \$3.7 billion purchase of OMX AB, which operated the Nordic Exchange, which resulted from the combination of several exchanges in the region. More importantly,

⁷ “Nasdaq to Acquire Instinet in \$1.9 Billion Deal”, *available at* <https://www.nytimes.com/2005/04/22/business/nasdaq-to-acquire-ininet-in-19-billion-deal.html> (April 22, 2005).

OMX AB also provided trading technology to approximately 60 exchanges in 50 different countries at the time of purchase, dramatically expanding Nasdaq's customer base and geographic reach. Nasdaq also acquired the Boston Stock exchange the same year, and the Philadelphia Stock Exchange ("PHLX") a year later.

44. The OMX AB acquisition was critical to Nasdaq's efforts to continue to grow its high-performance electronic trading system technology business, and to fend off electronic trading system rivals, in part because just two years prior to Nasdaq's acquisition of OMX, OMX had purchased the market technology division of Computershare. As a result of the OMX acquisition, Nasdaq had acquired control of the world's largest supplier of financial market technology products, as well as an international footprint for its products.

45. Nasdaq followed this acquisition with the purchase of FTEN, a leading provider of real-time risk management solutions, in 2010. This acquisition added further to the technology solutions that Nasdaq was able to offer.

46. The same year, Nasdaq also purchased another technology company, SMARTS, a provider of market surveillance systems.

47. Nasdaq also continued its expansion with purchases of businesses from Thompson Reuters and GlobalNewswire. It also made a bold, but failed, attempt to purchase the New York Stock Exchange in 2011.

48. Then, beginning in 2016, Nasdaq launched a series of major acquisitions with the goal of being able to dramatically expand and enhance its technology and service offerings to exchanges and other customers. That year, it purchased International Securities Exchange (“ISE”) for \$1.1 billion. In addition to operating three electronic options exchanges, ISE also further expanded the technology and service offerings that Nasdaq was able to offer other exchanges. Importantly, the purchase also gave Nasdaq an additional 20% stake in the Options Clearing Corporation (the “OCC”), bringing its total ownership to 40%. As alleged below, Nasdaq was soon able to leverage its stake in the OCC to further enhance its dominant position in high-performance electronic trading systems.

49. Nasdaq then acquired Sybenetics in July, 2017. Sybenetics was a leading provider of solutions to detect suspicious trading activity. Nasdaq’s surveillance products already accounted for over 12% of its revenue at the time of purchase;

50. In December, 2018, Nasdaq purchased Quandl, a leading supplier of financial data.

51. More recently, in 2019, Nasdaq acquired Cinnober, a global leading provider of high-performance trading systems for exchange-traded markets. Nasdaq touted at the time that “[t]his acquisition will enhance our ability to serve market

infrastructure operators worldwide, and will accelerate our ability to expand into new growth segments.”⁸

52. Finally, just last November, Nasdaq paid \$2.75 billion for Verafin, a leading supplier of anti-financial crime management products, used to detect financial fraud, money-laundering, and other illegal and suspicious trading and other financial activity.

53. As alleged below, Nasdaq has used the breadth of technology products and services that it can now offer as a result of its serial acquisitions to further shield its dominant position from competition.

54. Nasdaq’s predatory scheme to destroy its most significant competitive threats is focused on non-U.S. exchanges which are typically smaller than U.S. national exchanges like, for example, Chicago Board Options Exchange (CBOE) and New York Stock Exchange (NYSE). Most non-US exchanges also typically lack the expertise, capital and wherewithal to build their own trading technology that has the high performance features demanded by market participants. That strategy has paid off with both dramatic and continued growth of its high-performance matching engine business, and by its continued ability to prevent its competitors from threatening its dominant position.

⁸ “Nasdaq to Acquire Cinnober”, Nasdaq, *available at* <https://www.nasdaq.com/about/press-center/nasdaq-acquire-cinnober> (Sept. 14, 2018).

55. Today, Nasdaq supplies high-performance electronic trading systems and other technology to numerous financial exchanges, including the exchanges of Hong Kong, Shanghai, Japan (Next), Singapore, Tokyo, Osaka, Indonesia, Australia, New Zealand, Switzerland, Turkey, Iceland, Istanbul, Moscow, Athens, Abu Dhabi, Bahrain, Saudi Arabia, Doha, Dubai, the Bahamas, Barbados, Egypt, and Columbia, among many others.

MIAX and Other Competitors

56. MIAX entered the high-performance electronic trading system market with a goal of developing the technologies required to be able to offer to customers the best-available performance.

57. It accomplished this goal by hiring the best, most experienced experts in the industry; by its willingness to allow them to innovate, develop, and test their ideas; and by giving them the resources and time they needed to do so. MIAX also benefited from its recognition that in the world of high-performance trading, improvements measured in nanoseconds could result in very significant performance gains for their customers.

58. Just by way of example, Nasdaq's electronic trading systems are well-known to result in occasional errors, sometimes resulting in trades that were never intended. Such errors are costly for the trading parties, as well as for Nasdaq. MIAX therefore set out to build a high-performance electronic trading system that would

have high determinism, low latency and state of the art risk protections. MIAX in fact built just such a trading system.

59. MIAX also set a course to develop a high-performance matching engine that would be *much* faster than any engine yet available. MIAX accomplished this goal as well.

60. MIAX's plan was to provide market participants with a superior exchange technology experience that included enhanced functionality, outstanding performance, and high quality user experience and customer service, at lower costs. MIAX achieved these goals by building and launching an innovative electronic trading system that leveraged the power of the system's architecture, added multiple trading environments ("clouds"), while keeping the complexity in check and increasing flexibility to reduce costs. By centralizing all core trading logic into a performance tuned matching engine, the architectural complexity, time to market, and resource costs are reduced.

61. MIAX ultimately entered the high-performance electronic trading system market in 2012. It did so based on technology that is protected by U.S. Patents 8,868,461 and 8,874,479.

62. MIAX's award winning technology gives customers (1) the ability to process 36 million messages per second (as opposed to the "up to five million

messages per second” achieved by Nasdaq’s platform);⁹ (2) an average elapsed time from receiving a market participant’s security order at the edge of the network to the matching engine and an acknowledgement back to the edge of the network in just 19 microseconds on average; and (3) extraordinarily efficient and cost-effective back-office systems that support the trading system and other operational functions of an electronic exchange. Where other exchanges’ technology may require hundreds of back-office personnel to operate, MIAX’s technology enables the back office to be staffed by a few dozen employees, resulting in significant cost savings for the exchange.

63. Thus, far from being a replica of Nasdaq’s technology, MIAX’s technology has been consistently recognized by the industry as performing substantially *better* than Nasdaq’s with respect to virtually every objective and demonstrable measure, including with respect to:

- a. Lower latency (total elapsed time between arrival of a security order/quote at the edge of the network to the matching engine and the acknowledgement back to the edge of the network: the key measure for trading matching speed);
- b. Greater throughput (number of transactions processed in a period of time);
- c. Accuracy and quality of trade executions; and

⁹ Nasdaq Complaint ¶ 23 (Dkt. No. 1) (discussing capacity and speed supporting processing up to five million messages per second).

- d. Determinism (percent of time the customer's order arrives at the matching engine in the order received at the edge of the trading system network).

64. MIAX is also highly recognized for being the industry leader in the development of risk controls and purge port protection, as well as for its proprietary testing system, its scalable architecture, and unparalleled help desk.

65. Accordingly, MIAX has been consistently recognized by industry and business leaders for its superior technology and performance of its trading system.

Those recognitions and awards, for which Nasdaq was also considered, include:

- a. 2015, 2016 and 2018 Best Infrastructure/Technology Initiative by the Wall Street Letter. The award is given by Fund Intelligence, the leading reporting and intelligence organization servicing fund managers and others in the financial trading community;
- b. 2017 Best Overall Exchange at the Fund Technology and WSL (Wall Street Letter) Awards; and
- c. 2019, 2020 and 2021 Most Innovative Exchange Technology at the Fund Technology and WSL Awards.

66. By early 2015, once the superior performance of MIAX's technology was known to the market, MIAX closed its second Equity Rights Program (ERP) with the addition of seven leading financial firms taking an equity interest. For the first time, the MIAX ERP included Citadel Securities ("Citadel"). Citadel is a leading global trading firm that was instrumental in the ERP on the PHLX years before, when Frucher was the Chairman and CEO of PHLX. Frucher knew how

influential these strategic partnerships are to an exchange, especially when Citadel was so instrumental in the sale of PHLX to Nasdaq for over \$650 million in 2008.

67. MIAX was not going away. Nasdaq realized that its failure to block MIAX out of the gates at the SEC in 2012 had given rise to a fierce competitive threat: one that would force it either to compete, and succeed, on the merits by building better products that would offer customers better performance and lower operating costs, or alternatively, find another way to try to foreclose MIAX from the market.

68. Nasdaq chose the latter strategy. It was at this time, during the March 2015 FIA Conference, that Nasdaq Vice Chairman Sandy Frucher first unleashed his fury at having to compete on the merits against MIAX, MIAX had received accolades about its technology and its recently announced market share figures showing that its options trading market share had grown significantly (over 7% and doubled its March 2014 volume by March 2015). Frucher ambushed MIAX Chairman and CEO Thomas Gallagher at the check-in and registration line and, in front of other witnesses threatened: “Enjoy it while you can. We’re going to end this.”

69. Frucher wasn’t done. Two months later, he again threatened Thomas Gallagher, this time at the May, 2015 Options Industry Council conference, bullying, “We’re coming for you – enjoy it while you can.”

70. Next, just one month later, at an industry conference dinner, organized by Sandler O'Neill & Partners, Frucher, still apparently seething over MIAX's success in winning market share from Nasdaq, again tried to intimidate Thomas Gallagher by stating: "Don't get too comfortable. We're coming after you, and your employees."

71. Nasdaq continued to make clear that it was on a mission to put MIAX out of business. One year later, at the 2016 Options Industry Council conference, Nasdaq senior executive, Tom Wittman, warned MIAX's Executive Vice President that Nasdaq had a "nuclear weapon" that it intended to unleash on MIAX. He did not explain at the time what that was, but it is now plain that Nasdaq's nuclear arsenal would include meritless litigation based on invalid patents and dubious trade secret claims.

Financial Exchanges Today

72. There are today numerous exchanges used to trade a wide range of securities, including equities, bonds, options and other derivatives, as well as currencies (including government-issued official currencies and both official and non-official cryptocurrencies), and other financial instruments. With very few exceptions, those exchanges rely upon some form of an algorithm-based, electronic trading system to match buyers and sellers of those instruments.

73. Many of those exchanges are the “national exchanges” or “bourses” of their respective countries. The website of the World Federation of Exchanges, an industry group comprised of financial exchanges, lists among its members and affiliates a long list of national exchanges, both large and small, including for example, national exchanges of Abu Dhabi, Australia, Bermuda, Istanbul, Kuwait, Dubai, Egypt, Hong Kong, Indonesia, Kazakhstan, Korea, Qatar, Thailand, Botswana, Ghana, Muscat, Namibia, Nepal, and others.

74. There are also myriad other exchanges, including, for example, the New York Stock Exchange, Chicago Board of Options Exchange, Chicago Mercantile Exchange, Nasdaq, their affiliated exchanges, and many others.

75. Exchanges are used by firms such as Morgan Stanley, Merrill Lynch, Goldman Sachs and others, to trade securities on behalf of their own accounts or on behalf of their customers. It was MIAX’s application with the SEC to be approved as a registered national exchange – as well as IEX’s and MEMX’s applications – that Nasdaq sought to block because they would be competing against Nasdaq for this business.

76. The vast majority of financial exchanges are subject to regulation by their home countries. In the United States, for example, financial exchanges are subject to regulatory oversight by the SEC or by the Commodity Futures Trading Commission, depending on the financial instrument traded. These regulatory

agencies are typically focused on the exchange's orderly operation, operational integrity, and fairness (lack of bias), and other considerations.

77. Regardless of the size of the exchange or the nature of the instrument(s) they trade, one thing that every exchange has in common is that when it purchases a high-performance trading system, that system must be integrated with communications, data, security, and other systems operated by the exchange. This typically requires at least some degree of customization. In the case of very high volume, high-speed exchanges, the development and integration of an electronic system typically requires a very high degree of customization. This process is costly and complex, and can take many months to accomplish. Changing an electronic trading system also requires customers to spend time and money converting to a new system, adding another disincentive to switching systems.

78. Accordingly, the cost of switching from one high-performance electronic trading system to another is very high. Thus, exchanges are generally extremely cautious when making a high-performance electronic trading system purchasing decision because the political and operational consequences of having to change systems prior to the end of the useful life of the system is typically very high.

NASDAQ'S PREDATORY SCHEME AND CONDUCT¹⁰

Exchange No. 1

79. In March 2016, MIAX and delegates of Exchange No. 1, initiated discussions for MIAX to supply Exchange No. 1 with MIAX's high-performance electronic trading system technology. MIAX and Exchange No. 1 met throughout 2016. These meetings continued in January, 2017 when MIAX's CEO Thomas Gallagher met with the Chairman of Exchange No. 1 to further discuss MIAX's trading system technology. Following that meeting, a broader MIAX team and Exchange No. 1's team continued to meet through 2017 at Exchange No. 1's home country, in New York City, and at MIAX's locations in Miami and Princeton. These negotiations culminated with critical meetings from August 29 to September 1, 2017, when MIAX met with the top executives of Exchange No. 1, led by Exchange No. 1's Chief Information Officer and Chief Executive Officer. The Exchange No. 1 team also included its technical team who vetted MIAX's technology for solidifying the deal. But, just as the MIAX/ Exchange No. 1 deal was about to close, Nasdaq, who upon information and belief, learned about the imminent MIAX-Exchange No. 1 transaction through Exchange No. 1's former CIO, filed the sham

¹⁰ Due to the confidentiality of MIAX business information in this section, MIAX has used generic names of the exchanges, e.g., Exchange 1 through Exchange 6 and refers to individuals at the Exchanges by title only.

lawsuit against MIAX alleging patent infringement and trade secret misappropriation.

80. The Nasdaq Lawsuit made headline news in the trading industry. On September 2, 2017, Bloomberg published its headline “Nasdaq sues rival exchange Miami International, alleging stolen tech secrets.”¹¹ Bloomberg was followed by other media publishing similar characterizations of the lawsuit.¹²

81. The filing of the lawsuit against MIAX had the chilling effect Nasdaq intended. Exchange No. 1 expressed concern about the allegations that MIAX was using Nasdaq’s technology. MIAX lost this market opportunity. Had MIAX closed the transaction with Exchange No. 1, MIAX would have received millions of dollars for the contract plus yearly royalties.

Exchange No. 2

82. Exchange No. 1 was not MIAX’s only lost opportunity. In 2016, MIAX also met with the CIO and CEO of Exchange No. 2 to discuss MIAX supplying

¹¹ “Nasdaq Sues Rival Exchange, Alleging Stolen Tech Secrets”, Bloomberg, *available at* <https://www.bloombergquint.com/markets/nasdaq-sues-exchange-rival-alleging-tech-secrets-were-stolen> (Sept. 1, 2017).

¹² “Nasdaq sues rival exchange Miami International, alleging stolen tech secrets”, Mint, *available at* <https://www.livemint.com/Money/0IgBX2X0NQW9YABQAPdEqJ/Nasdaq-sues-rival-exchange-Miami-International-alleging-sto.html> (Sept. 2, 2017); *see also* “Nasdaq sues rival exchange operator over stolen tech secrets”, Inshorts, *available at* <https://inshorts.com/en/news/nasdaq-sues-rival-exchange-operator-over-stolen-tech-secrets-1504436016768> (Sept. 3, 2017).

Exchange No. 2 with its technology. As with Exchange No. 1, MIAX and Exchange No. 2 had extensive meetings in Princeton with executives and a technical team from Exchange No. 2 in 2017 to further explore this opportunity. When Exchange No. 2 learned of the Nasdaq Lawsuit, it ended all discussions. An executive from Exchange No. 2 stated that he could not seek approval from its Board of Directors to acquire MIAX technology in view of Nasdaq's allegation that MIAX is wrongfully using Nasdaq's technology. Had MIAX not been prevented from closing the transaction with Exchange No. 2, Exchange No. 2 would have paid MIAX millions of dollars for the contract plus yearly royalties.

Nasdaq Branded MIAX As Thieves

83. Nasdaq compounded damage to MIAX by branding them as thieves attempting to sell stolen goods. Upon information and belief, Nasdaq told MIAX's potential and existing customers at various industry events in New York City, Washington, D.C., and Chicago, not to do business with MIAX because MIAX had stolen Nasdaq's technology.

84. MIAX continued to lose bid after bid on its award-winning technology as a result of Nasdaq's conduct claiming MIAX had stolen its technology to potential customers when Nasdaq itself was trying to land the technology sale. For example, MIAX had progressed to advanced discussions with Exchange No. 3, Exchange No. 4, Exchange No. 5, and Exchange No. 6, but Nasdaq's lies damaged MIAX's

reputation in the marketplace as a supplier of high-performance electronic trading systems technology, which business never took flight due to Nasdaq's illegal interference.

NASDAQ'S PATENTS WERE OBTAINED THROUGH FRAUD

Nasdaq Withheld Highly Relevant Information From The USPTO

85. Prior to its predatory acquisition of Instinet, Nasdaq had lost substantial trading share to competitor exchanges and electronic communications networks ("ECN"), such as Instinet and Island. These platforms provided market participants with high-speed trading and related functionality that could process high volumes of trades in short order.

86. In response to this threat, Nasdaq, at first, sought to build a better and more competitive trading platform by collaborating with Bill Lupien's company, OptiMark in 1998.¹³ Years before this collaboration, Lupien, together with Dr. John T. Rickard, had designed and developed an electronic trading system, (the OPTI-mal MARK-et abbreviated as OptiMark), that had a platform composed of many high performance processors to match securities orders. This feature enabled the OptiMark System to process trades in parallel by having multiple securities

¹³ "Nasdaq Plans to Get OptiMark System In Summer of 1999", The Wall Street Journal, *available at* <https://advance.lexis.com/document/index?crid=d1cbde0e-e646-4f88-bcb9-6fdb207c51b&pdpermalink=31cdd382-4198-4dc7-a51d-0f25b4c71240&pdmfid=1000516&pdisurlapi=true> (Sept. 10, 1998).

processors or matching engines. Before that, Lupien was the Chairman and CEO of Instinet, and has been attributed with Instinet's success in the marketplace.

87. Upon information and belief, Nasdaq also collaborated with contractors from Accenture. Accenture was known to Nasdaq as having worked on the London Stock Exchange ("LSE") trading platforms, and specifically its messaging architecture. Upon information and belief, at the time LSE was a top competitor of Nasdaq.

88. In 1998, Nasdaq's parent company, National Association of Securities Dealers, Inc. ("NASD") touted OptiMark's advanced trading technology:

The OptiMark system is an electronic equity trading process that offers traders and investors a "third dimension" to their trading criteria Using *powerful supercomputers and patented algorithms*, the OptiMark system *matches* profiles of buying and selling desires in a manner that maximizes the mutual satisfaction of all buy and sell interests. . . . *OptiMark was developed by experts in electronic trading after extensive consultation with institutional investors, brokers, and stock markets.*¹⁴

89. Nasdaq, therefore, had actual knowledge of the technology underlying the OptiMark electronic trading system.

¹⁴ "NASD Announces Final Agreement With OptiMark Technologies", Nasdaq, available at <https://advance.lexis.com/api/permalink/c6f85cec-6565-4d0a-a811-8c8ec9c52dad/?context=1000516> (Sept. 9, 1998) (emphasis added).

90. Nasdaq was so impressed with OptiMark's technology that the Chairman and CEO of the NASD, Frank G. Zarb, reported a plan to integrate OptiMark technology into Nasdaq:

The agreement to *integrate OptiMark technology into Nasdaq* is part of an ongoing effort to offer investors and the trading community increased access to the market through innovative technology.¹⁵

91. In September 1999, the SEC approved Nasdaq's request to integrate the OptiMark technology and by October 1999, Nasdaq integrated it into the Nasdaq exchange.

92. Then in 2000, Nasdaq and OptiMark entered into a multi-million dollar services agreement under which OptiMark provided advanced software development services in connection with a collaboration to develop Nasdaq's "SuperMontage" trading system:

In October 2000, Nasdaq entered into a contract with OptiMark under which OptiMark was engaged to provide software development services in connection with the development of the SuperMontage system. Nasdaq will pay OptiMark for the SuperMontage development for a period not to exceed twelve months. Additionally, OptiMark will be entitled to receive incentive payments if it meets certain delivery milestones agreed to in the contract. If Nasdaq uses OptiMark's services for the full twelve months of expected development effort and OptiMark meets all of its deliverables, then Nasdaq will be required to pay up to \$14.2 million.¹⁶

¹⁵ *Id.* (emphasis added).

¹⁶ "Form 10 General Form For Registration of Securities Pursuant To Section 12(b) or 12(g) Of the Securities Exchange Act of 1934", The Nasdaq Stock Market, Inc., available at

93. “SuperMontage” was “[Nasdaq’s] aggressive bid to lure back some of the trading business it lost out to Island and Instinet”.¹⁷

94. OptiMark purportedly offered “expertise in matching and multi-attribute trading technology to deliver unmatched value in terms of improved efficiencies.”¹⁸

95. “[Nasdaq and OptiMark] have collaborated to incorporate OptiMark’s securities processing capabilities as well as its performance monitoring and testing technology into advanced capabilities utilizing the company’s multi-attribute matching technology for various insurance marketplaces.”¹⁹

96. The SuperMontage, like the OptiMark System (and as would be expected) improved trade execution speed and order fill rates.²⁰

<https://www.sec.gov/Archives/edgar/data/1120193/000095017201500107/0000950172-01-500107.txt> (April 30, 2001); *see also* “OptiMark Agrees To Supply Expertise To Nasdaq Market”, The Wall Street Journal, IpStaff, G., *available at* <https://www.wsj.com/articles/SB971127526876875147> (Oct. 10, 2000).

¹⁷ *Erin Joyce*. “Instinet Acquires Island ECN,” *internetnews.com*, *available at* <https://www.internetnews.com/it-management/instinet-acquires-island-ecn/> (June 10, 2002).

¹⁸ “NASD Announces Final Agreement With OptiMark Technologies”, Nasdaq, *available at* <https://advance.lexis.com/api/permalink/c6f85cec-6565-4d0a-a811-8c8ec9c52dad/?context=1000516> (Sept. 9, 1998).

¹⁹ “OptiMark To Help Businesses Reduce Costs By Building Custom ‘Exchanges’”, *available at* <https://www.sec.gov/Archives/edgar/data/1062023/000095012301504303/y51455ex19-1.txt> (July 11, 2001).

²⁰ “Supermontage as a New Trading System of Nasdaq”, Investment Management and Financial Innovations, Tseng, K.C., *available at*

97. Meanwhile, during the collaboration, upon information and belief, the Accenture contractors contributed the idea of storing the order book in the memory of the matching engine. The order book stored unfulfilled security orders for later matching.

98. The collaborations with OptiMark and Accenture led to Nasdaq's filing of two U.S. provisional patent applications in 2002.

99. On June 5, 2002, Nasdaq filed, through its prosecution attorney Denis Maloney, U.S. Provisional Patent Application No. 60/385,979, entitled "SuperMontage Architecture" ("SuperMontage Provisional").

100. Also on June 5, 2002, Nasdaq filed, through its same prosecution attorney, U.S. Provisional Patent Application No. 60/685,988, entitled "Security Processor" ("Security Processor Provisional"). These applications are referred to collectively as the "June 2002 Provisionals."

101. According to USPTO records, the inventors listed for the SuperMontage Provisional are: James Richmann, Daniel Moore, Stuart Serkin, Tim Vincent, Peter Martyn, Mark DeNat and Jack Hughes.²¹ The inventors listed for the Security Processor Provisional are: Daniel Moore, Stuart Serkin, Tim Vincent, Jack

https://www.businessperspectives.org/index.php/journals?controller=pdfview&task=download&item_id=1239 (Aug. 31, 2005).

²¹ Public Patent Application Information Retrieval (PAIR), *available at* <https://portal.uspto.gov/pair/PublicPair>.

Hughes and Fred Stiening.²² No OptiMark nor Accenture contractors were named as inventors.

102. The SuperMontage Provisional describes and claims the concept of a trading platform having one or more securities processors to which an order for a security would be routed and processed. When two or more securities processors are employed, each one may be assigned to process only certain securities. The assignments of certain securities to a particular securities processor are indexed and stored in a lookup table. The concept of employing multiple securities processors to process trades was not new or inventive at the time. Nor was using a lookup table to store assigned processors to certain securities. In fact, such features were fundamental to any electronic trading system, including the OptiMark System, and Nasdaq knew it. Moreover, the claimed features reflected contributions of the OptiMark and Accenture contractors, not contributions by Nasdaq.

103. The Security Processor Provisional contains similar subject matter as the SuperMontage Provisional. It describes and claims the concept of multiple securities processors assigned to particular securities, but also describes matching bids and asks for a security to complete a trade. This represents another fundamental concept that was not new or inventive, and was part of the OptiMark System and upon information and belief, the LSE Platform as well.

²² *Id.*

104. The June 2002 Provisionals led to the filing of two non-provisional patent applications, which later issued as two of the patents asserted in this lawsuit.

105. On July 25, 2002, Nasdaq filed, through prosecution attorney Denis Maloney, U.S. Patent Application No. 10/206,148 (“’148 Application”), which led to the issuance of U.S. Patent No. 7,921,051 (“’051 Patent”), which issued on April 5, 2011. The ’148 Application claimed priority to the June 2002 Provisional Applications.

106. The ’051 Patent describes and claims using a lookup table to route security orders to specific processors assigned to that particular security. The patent also describes that orders are queued for processing. Once queued, orders wait in line to be processed by a matching process in the processor. When available, the matching process retrieves the order for processing. The patent illustrates this concept: “[a]s an example, order may pertain to one-hundred shares of XYZ Corp. that Market Participant A wishes to purchase for \$17.00 per share. This order, which represents a bid-to-buy XYZ Corp. is entered into an order book for a particular securities processor for subsequent matching with a corresponding offer-to-sell XYZ Corp.”²³ “. . . if the highest bid (hereinafter buy) is lower than the lowest offer

²³ U.S. Patent 7,921,051 at 6:6-16.

(hereinafter sell), the security will not be traded and these pending bids and offers will remain on the security order book.”²⁴

107. The inventors listed on the ’051 Patent are: Stuart Richard Serkin, Timothy Vincent, and two other Nasdaq personnel, who were not listed on either of the June 2002 Provisional Applications, Robert Miller and Edward A. Perrault (“Serkin *et al.*). Again, no one from OptiMark or Accenture was listed as an inventor on the ’051 Patent. Also missing from this list of inventors is Fred Stiening, Nasdaq’s then-Director of Software Design.

108. On information and belief, Mr. Stiening had actual knowledge that the subject matter in the June 2002 Provisionals and the related ’051 Patent did not originate with Nasdaq.

109. Also on July 25, 2002, Nasdaq filed, through its prosecution attorney Denis Maloney, U.S. Patent Application No. 10/206,892 (“’892 Application”), which issued as U.S. Patent No. 7,933,827 (“’827 Patent”) on April 26, 2011. The ’827 Patent claims priority to the June 2002 Provisional Applications.

110. The ’827 Patent is similar to the ’051 Patent, and also describes a system having multiple securities processors assigned to certain securities and a look up table. It further describes that the securities processors include a matching process. The patent states: “[t]he matching process includes an order book . . . for

²⁴ *Id.*, 6:17-28.

storing the validated attributable security interest messages obtained from the matching queue. This order book is maintained on a main memory device and is exclusively accessible by the order management process.”²⁵

111. The inventors listed on the ’827 Patent are: James N. Richmann, Daniel F. Moore, John T. Hughes Jr. Stuart Serkin, Timothy Vincent, Peter J. Martyn and Mark DeNat. Again, no OptiMark or Accenture inventor is named. Neither is Mr. Stiening, even though Mr. Stiening was named on the Security Processor Provisional.

112. Related to both the ’051 and ’827 Patents is U.S. Patent No. 7,895,112 (“’112 Patent”), which issued from U.S. Patent Application No. 10/206,316 (“’316 Application”). The ’051, ’827 and ’112 Patents are siblings because they each claim priority back to the same June 2002 Provisionals.

113. As with the ’827 and ’051 Patents, the ’112 Patent also describes an electronic trading system. In fact, some parts of the specifications in each of these patents are the same. Among other similarities, the ’112 Patent describes a system having multiple securities processors that can be assigned to certain securities to distribute the volume of securities trading over a number of securities processors.²⁶ The ’112 Patent also describes an order book that resides in memory of the securities

²⁵ U.S. Patent 7,933,827 at 2:10-14.

²⁶ U.S. Patent 7,895,112 at *e.g.*, 2:22-3:19, 3:35-50.

processors and that “[a] matching process [] matches portions of the received order, i.e., executes and allocates the received orders and stores the unmatched portion of the order stored in the order book.”²⁷

114. The inventors listed on the ’112 Patent are: James N. Richmann, Stuart Serkin, Timothy Vincent, John T. Hughes, Jr.,²⁸ Daniel F. Moore, and Fred Stiening. This inventorship overlaps with the inventors listed on both the ’051 and ’827 Patents, and the June 2002 Provisionals.

115. Nasdaq used the same principal prosecuting attorney Denis Maloney and his colleagues to prepare and prosecute these applications before the USPTO, and that prosecution resulted in the ’051, ’827 and ’112 Patents.

The Inventors Oath

116. During the prosecution of the ’112 Patent, which was simultaneous with the prosecution of the ’051 and ’827 Patents, Mr. Stiening refused to sign a Declaration and Power of Attorney (“Declaration”) in connection with the ’112 Patent.²⁹

117. The Declaration, also called an inventor’s oath, is a sworn statement in which the inventor is required to swear to be the first and original inventor of the

²⁷ *Id.* at 3:52-62.

²⁸ Upon information and belief, John T. Hughes Jr. of Stamford CT listed as an inventor on the ’112 Patent is the same person as Jack Hughes of Stamford CT listed as an inventor on the ’051 and ’827 Patents.

²⁹ ’112 Patent, File Wrapper, 2/19/2003 Petition Entered.

subject matter sought in a patent. 35 C.F.R. § 1.63(a). The inventor also must acknowledge its duty to disclose to the USPTO all information known to the inventor to be material to patentability. *Id.* at (c).

118. On information and belief, Mr. Stiening refused to sign the Declaration because he had actual knowledge that he was not the first and original inventor and that the OptiMark System was material prior art. And Mr. Stiening told this to Nasdaq's prosecuting attorneys.

OptiMark . . . ***publish[ed] other truly original documents of their own***, proposing a similar architecture based on their prior art of a system that they were running in Jersey City ***Those documents that were made available to all of the design team (including non-Nasdaq participants), and also might be considered relevant prior art I have knowledge that the documents existed and were distributed, but as an ex-employee I did not retain any of that type of documentation. Jim Richman and others should have copies.***³⁰

119. Mr. Stiening also acknowledged that the LSE Platform was prior art.

Accenture probably might also oppose these applications as their prior involvement with the London Stock Exchange and Eurex trading systems (and others) brought their significant experience with using a memory based order book based electronic trading system to the project team. The use of a memory book was a significant point of disagreement within the project team (Stu Serkin being the primacy opponent), and

Accenture's real life experience implementing similar trading system architectures was a significant factor in management alternately shifting the direction of the design to rely on a memory-based order

³⁰ *Id.*, App'x A at 4 (emphasis added).

book. *I doubt that they are so brash as to assert having creat[ed] the concept of a memory based order book themselves, though.*³¹

120. Through their collaboration, Mr. Stiening, and the rest of the “design team,” including James Richmann and Stuart Serkin, had actual knowledge of the prior electronic trading systems, including OptiMark System and LSE Platform.

121. Significantly, USPTO guidelines specifically state that information material to patentability may include information learned from “co-workers, trade shows, communications from or with competitors, potential infringers, or other third parties.” MPEP § 2001.06.

122. Upon information and belief, Richmann *et al.* and Serkin *et al.* had actual knowledge, as did Mr. Stiening, that non-Nasdaq employees contributed “key ideas” and had not been named as inventors, while Nasdaq employees who had not contributed to the claimed inventions had been improperly named as inventors.

At least on the applications I’ve seen so far, there is *no mention of any Accenture person and they played a role in formulating and benchmarking many of the key ideas*, yet people who joined the project a year after the publication of the high level design document that became the core of these patent applications *were not only not involved, but actively working against the efforts at the time — now are listed as co-inventors.*³²

123. During the OptiMark-Nasdaq-Accenture collaboration, Serkin *et al.* and Richmann *et al.* received OptiMark System documentation and were aware of

³¹ *Id.* at 4-5 (emphasis added).

³² *Id.* at 5 (emphasis added).

Nasdaq's integration of OptiMark technology beginning in and around 1998. Accordingly, Serkin *et al.* and Richmann *et al.*, had actual knowledge of the technology underlying the OptiMark System, and further that such technology included, on information and belief, among other features, an electronic trading system with many securities processors and a lookup table for routing securities to those processors.

124. Serkin *et al.* and Richmann *et al.* had actual knowledge of who contributed and who did not contribute to the conception of the alleged inventions of the '051 and '827 Patents, respectively, as well as the prior June 2002 Provisional Applications.

125. Under false and fraudulent pretense, Serkin *et al.* and Richmann *et al.*, each signed a sworn oath declaring that each was the original and first inventors of the subject matter claimed in the '051 and '827 Patents, when Nasdaq and each inventor had actual knowledge that Serkin *et al.* and Richmann *et al.* were not, in fact, the original and first inventors of the subject matter claimed in the '051 and '827 Patents. In addition, they failed to disclose material information, i.e., the OptiMark system, about the patentability of the subject matter sought in the patent applications leading to the issuance of the '051 and '827 Patents.

126. Nasdaq had actual knowledge that the OptiMark System implemented subject matter that Serkin *et al.* and Richmann *et al.* later alleged to be their “inventions” in the ’051 and ’827 Patents, respectively.

127. The ’051 Patent was set to expire on April 27, 2015; however, on or about October 6, 2014 using the mails or instrumentalities of interstate commerce, Nasdaq caused a “maintenance fee” to be paid to the USPTO for the purpose and effect of maintaining the ’051 Patent under false and fraudulent pretense that Serkin *et al.* were the original and first inventors of the subject matter claimed in the ’051 Patent, when Nasdaq had actual knowledge that Serkin *et al.* were not in fact the original and first inventors of the subject matter claimed in the ’051 Patent.

128. The ’827 Patent was set to expire on April 27, 2015; however, on or about October 6, 2014 using the mails or instrumentalities of interstate commerce, Nasdaq caused a “maintenance fee” to be paid to the USPTO for the purpose and effect of maintaining the ’827 Patent under false and fraudulent pretense that Richmann *et al.* were the original and first inventors of the subject matter claimed in the ’827 Patent, when Nasdaq had actual knowledge that Richmann *et al.* were not in fact the original and first inventors of the subject matter claimed in the ’827 Patent.

129. The OptiMark System is prior art to the ’051 and ’827 Patents under at least 35 U.S.C. § 102(a) and 102(b). The first trade of listed equities on the

OptiMark System occurred on the California-based Pacific Exchange by no later than January 1999, more than three years before Nasdaq filed the June 2002 Provisional Applications. Accordingly, the OptiMark System was known and used by others in the United States, and in public use in the United States, more than one year prior to the filing date of the June 2002 Provisional Applications.

130. Despite their actual knowledge that the OptiMark System and the LSE Platform were material prior art, Nasdaq, Richmann et al. and Serkin *et al.*, and its prosecuting attorney, concealed the OptiMark System and the LSE Platform from the USPTO by not disclosing it in an Information Disclosure Statement (“IDS”) or otherwise bringing Mr. Stiening’s emails to the attention of the Examiners of the ’051 and ’827 Patents.

131. Any reasonable examiner would have considered these prior art systems critical to the patentability of the claims that issued in the ’051 and ’087 Patents and would have rejected the claims Nasdaq later asserted against MIAX.

132. “Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section.” (37 C.F.R. § 1.56).

133. This duty of candor to the PTO extends to: (1) each inventor named in the application; (2) each attorney or agent who prepares or prosecutes the claim; and

(3) every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, the applicant, an assignee, or anyone to whom there is an obligation to assign the application. (37 C.F.R. § 1.56)

134. Nasdaq, its prosecution attorneys, and Serkin *et al.* each owed a duty of candor to the USPTO in connection with prosecution of the '051 Patent and were obligated to disclose information material to patentability. (37 C.F.R. § 1.56).

135. Nasdaq, its prosecution attorneys, and Richmann *et al.* each owed a duty of candor to the USPTO in connection with prosecution of the '827 Patent and were obligated to disclose information material to patentability. (37 C.F.R. § 1.56).

136. The OptiMark System was material to the patentability of the alleged inventions claimed in the '051 and '827 Patents, and, but for its non-disclosure, the USPTO would not have issued one or more claims in each of those patents because it used multiple securities processors, and upon information and belief, assigned to certain securities and upon information and belief employed a lookup table to index those assignments.

137. The OptiMark System, alone or in combination with prior art of record, anticipates or renders obvious claims of the '051 and '827 Patents. Accordingly, one or more claims of the '051 and '827 Patents would not have issued had the

OptiMark System been disclosed to the Examiners during prosecution of the '051 and '827 Patents.

138. Nasdaq's prosecution counsel also knew about the OptiMark System from Mr. Stiening, and that it was material to the patentability of the alleged inventions claimed in both the '051 and '827 Patents. In addition, Mr. Stiening, a named inventor on the related Security Processor Provisional, and co-pending '316 Application, told Nasdaq's prosecution attorneys that the OptiMark System "overlap[s] [with] many of the claims" in Nasdaq's applications and that descriptions of the OptiMark System is "relevant prior art."³³

139. Despite their knowledge of the OptiMark System and its materiality, the named inventors on the '051 and '827 Patents and Nasdaq, acting through its prosecution attorneys, withheld and did not disclose the OptiMark System to the Examiners of the '051 and '827 Patents.

140. The named inventors on the '051 and '827 Patents and Nasdaq, acting through its prosecution attorneys, withheld the OptiMark System from the Examiners during prosecution of '051 and '827 Patents with specific intent to deceive the USPTO. For example, Nasdaq filed Mr. Stiening's email correspondence, which described the inventors' collaboration with OptiMark and his belief that the OptiMark System was material prior art, with the PTO in connection

³³ '112 Patent, File Wrapper, 2/19/2003 Petition Entered, App'x A at 4.

with the '112 Patent, but it withheld this critical information in connection with the prosecution of related '051 and '827 Patents, which were filed the same day as the '112 Patent, and claimed priority to the same June 2002 Provisional Applications, but were being examined by *different* Examiners at the USPTO. Moreover, Nasdaq's prosecution attorneys, in collaboration with the named inventors of '051 and '827 Patents, were distinguishing prior art cited by the examiner based on its alleged failure to disclose elements that they knew to be present in the OptiMark trading system, such as having multiple securities processors or configurable lookup tables.

141. This deliberate, deceitful, and inequitable conduct renders the '051 and '827 Patents unenforceable, and is a fraud perpetrated on the patent office in order to procure the '051 and '827 Patents.

142. The '827 Patent and '051 Patent are unenforceable because Nasdaq, through its counsel, and the named inventors on those patents, committed inequitable conduct by failing to disclose to the PTO during prosecution: (1) the OptiMark System; (2) the LSE Platform; and (3) inventorship non-joinder and misjoinder.

Nasdaq's Withholding Of The Kogan Reference During Prosecution Of The '051 Patent And Examiner Liu's Official Notice and Minton Reference During Prosecution Of The Related '827 Patent

143. During prosecution of the '051 Patent, the patent examiner, Marissa Liu, rejected the claims pending in the application four times based on prior art. In

the first office action, dated June 22, 2007, Examiner Liu rejected the claims over US 6,278,982 to Korhammer, finding that the Korhammer reference was prior art that disclosed the invention including the feature of a configurable look-up table that included assignments to a plurality of securities processors in an electronic securities trading platform. After a non-persuasive response from Nasdaq this rejection and its bases was repeated in a second office action dated August 8, 2008.

144. In the next office action dated March 13, 2009, Examiner Liu maintained her rejection over Korhammer but also issued an Official Notice that the claimed feature “populat[ing] [the lookup table] with each assignment determining which security processor will execute an order for a specific security and with assignment entries [] is *old and well known in the security trading industry . . .*.”³⁴

145. After rejecting Nasdaq’s arguments with respect to the prior art, Examiner Liu issued a fourth office action dated January 22, 2010. In that office action, Examiner Liu maintained her rejection and also provided another prior art reference, US 6,014,643 to Minton, in support of the Official Notice.

146. But after a telephone interview with Nasdaq’s prosecution counsel, Denis Maloney, on September 16, 2010, Examiner Liu made an Examiner’s Amendment to the claims to include another feature - that the configurable look-up

³⁴ ’051 Patent, File Wrapper, 03/13/2009 Non-Final Office Action at 3 (emphasis added).

table included a specific entry table and a rule entry table. The amendment also included the concept that the specific entry table has the assignment for specific securities, whereas the rule entry table has assignment for a range of securities.³⁵ Based on the narrowing of the claims to require both a specific entry table and rule entry table, Examiner Liu allowed the claims and the '051 Patent issued on April 5, 2011.

147. On September 16, 2010 Nasdaq's counsel, who was the principal prosecution attorney for both the '051 and '827 Patents, had actual knowledge that the newly added feature relied upon by Examiner Liu was disclosed in other prior art that, under false and fraudulent pretenses, was wrongfully withheld from Examiner Liu.

148. The applications that lead to the '051 and '827 Patents were prosecuted by the same principal prosecution counsel simultaneously, but before different Examiners at the USPTO. Examiner Liu examined the '051 Patent, while Examiner Hai Tran examined the '827 Patent.

149. The claims in the application that led to the '827 Patent were similar to those pending before Examiner Liu. The claims also included the concept of a configurable look-up table having a specific entry table and a rule entry table, where

³⁵ *Id.*, 12/02/2010 Notice of Allowance and Fees Due, Examiner's Amendment at 1.

the specific entry table had assignments for specific securities and the rule entry table had assignment for a range of securities.

150. On October 28, 2009, while the '051 Patent was still pending before Examiner Liu, Examiner Tran rejected the claims pending in the '827 Patent. In the Office Action, Examiner Tran found that US 6,820,069 to Kogan was prior art that disclosed a configurable lookup table that had both a specific entry table and a rule entry table, where the specific entry table is for specific security entries and the rule entry table is for id-range entries—the same features that Examiner Liu relied upon in the '051 Patent to allow the case.³⁶

151. Nasdaq's prosecution attorneys had a duty to disclose Kogan and the findings made by Examiner Tran, to Examiner Liu who was examining the similar '051 Patent.

152. Nasdaq's prosecution counsel did not disclose Kogan to Examiner Liu through an Information Disclosure Statement ("IDS") or during the telephone interview with Examiner Liu on September 16, 2010, when they discussed prior art and the claims.³⁷

153. Nasdaq's prosecution counsel did not disclose a copy of Examiner Tran's Office Action with the findings with respect to Kogan to Examiner Liu

³⁶ '827 Patent, File Wrapper, 10/28/2009 Final Office Action at 7.

³⁷ '051 Patent, File Wrapper, 12/02/2010 Examiner Interview Summary Record at 1.

through an IDS or during the telephone interview with Examiner Liu on September 16, 2010, when they discussed prior art and the claims.³⁸

154. Kogan and Examiner Tran's findings in the Office Action dated October 28, 2009 were material to the patentability of the alleged inventions claimed in the '051 Patent, and, but for its non-disclosure, Examiner Liu would not have issued one or more claims in the '051 Patent.

155. Examiner Liu relied on the claimed feature of the recited look-up table having a specific entry table and rule entry table to allow the claims. Examiner Tran in connection with prosecution of the related '827 Patent found that Kogan disclosed this feature. Had Examiner Liu known of Examiner Tran's findings and Kogan she would not have allowed one or more claims of the '051 Patent.

156. Despite their awareness of Kogan and Examiner Tran's findings, and their materiality to the claims pending in the related '051 Patent, Nasdaq's prosecution attorneys deliberately withheld and did not disclose Kogan or Examiner Tran's findings to Examiner Liu in connection with prosecution of the '051 Patent.

157. Nasdaq's prosecution attorneys deliberately withheld material information identified during prosecution of the '827 Patent from Examiner Liu who was examining the '051 Patent. This deliberate, deceitful, and inequitable conduct

³⁸ *Id.*

not only renders the '051 Patent unenforceable, but it is a fraud perpetrated on the patent office in order to procure the '051 Patent.

158. Likewise, while prosecuting the application that led to the '827 Patent before Examiner Tran, Nasdaq's prosecuting attorney withheld the Official Notice lodged by Examiner Liu from Examiner Tran. Examiner Liu had taken Official Notice that "populat[ing] [the lookup table] with each assignment determining which security processor will execute an order for a specific security and with assignment entries [] is *old and well known in the security trading industry*"³⁹ This information was material to the claims pending before Examiner Tran because those claims recited this old and well known feature. Additionally, Nasdaq did not cite U.S. Patent 6,014,643 to Minton, the prior art reference relied upon by Examiner Liu as support for her taking the Official Notice, in an IDS in connection with prosecution of the '827 Patent.

159. Despite their awareness of Examiner Liu's Official Notice and Minton, and their materiality to the claims pending in the related '827 Patent, Nasdaq's prosecution attorneys withheld and did not disclose Minton or the Official Notice to Examiner Tran in connection with prosecution of the '827 Patent.

³⁹ '051 Patent, File Wrapper, 03/13/2009 Non-Final Office Action at 3 (emphasis added).

160. Nasdaq's prosecution attorneys deliberately withheld material information identified during prosecution of the '051 Patent from Examiner Tran who was examining the '827 Patent. This deliberate, deceitful, and inequitable conduct not only renders the '827 Patent unenforceable, but it is a fraud perpetrated on the patent office in order to procure the '827 Patent.

161. Nasdaq is directly liable for the acts of its own officers, directors, and attorneys.

***Nasdaq's Deceptive Claim Of Priority To The
June 2002 Applications To Back-Date The '506 Patent***

162. On November 21, 2002, Nasdaq filed, through its prosecution counsel, Denis Maloney and Brian Colandreo, U.S. Patent Application No. 10/301,806 (the "'806 Application"), which issued as U.S. Patent No. 7,747,506, with the USPTO on June 9, 2010. The '506 Patent relates to the monitoring of an indicator signal, often referred to as a heartbeat, to determine connectivity of a client system.

163. The inventors listed on the patent application filing are: Keith Alexander, Paul Buu, Edward N. Flynn, Roberta Gail, David Gallucci and Jay Thompson (Alexander *et al.*).

164. Even though the '806 Application claims priority to the June 2002 Provisional Applications, there is no common inventor among the inventors listed

on the '806 Application and either of the June 2002 Provisional Applications, as required under the law.⁴⁰

165. After the '806 Application was filed, the USPTO issued a Notice to File Missing Parts Of Non-Provisional Application (“Notice”). The Notice indicated that the filed application omitted sworn Declarations from each of the inventors listed on the application.⁴¹

166. Each inventor in an application for patent must execute a sworn oath or declaration in a patent application. (*See* 37 CFR 1.63). The inventors must swear, among other things, that they believe to be the original and first inventor. (*Id.*).

167. Nasdaq’s prosecution attorneys filed a response to the Notice on May 7, 2003, and submitted Declarations executed by each of the inventors it listed on the '806 Application. Nasdaq’s prosecution attorneys, however, had actual knowledge that there was no common inventor between these inventors and those on the June 2002 Provisional Applications, and also had actual knowledge that

⁴⁰ '506 Patent, File Wrapper, 06/09/2010 Issue Notification; According to USPTO records, the inventors who were listed for the SuperMontage Provisional are: James Richmann, Daniel Moore, Stuart Serkin, Tim Vincent, Peter Martyn, Mark DeNat and Jack Hughes. (*See*, 60/385,979, File Wrapper). The inventors who were listed for the Security Processor Provisional are: Daniel Moore, Stuart Serkin, Tim Vincent, Jack Hughes and Fred Stiening. (*See*, 60/385,988, File Wrapper). No OptiMark nor Accenture contractors were named as inventors.

⁴¹ '506 Patent, File Wrapper, 01/07/2003 Miscellaneous Action with SSP at 1.

Nasdaq had no right, under the law, to claim priority to the June 2002 Provisional Applications.

168. Alexander *et al.* filed through Nasdaq's prosecution attorneys sworn statements that each was an original and first, joint inventor of the claimed subject matter in the '806 Application and that they reviewed and understood the contents of the specification of the '806 Application.



Attorney Docket No.: 09857-120001 ✓

COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled RECIPIENT STATUS INDICATOR SYSTEM AND METHOD, the specification of which:

[X] was filed on November 21, 2002 as Application Serial No. 10/301,806.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose all information I know to be material to patentability in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby claim the benefit under Title 35, United States Code, §119(e)(1) of any United States provisional application(s) listed below:

U.S. Serial No.	Filing Date	Status
60/385,979	June 5, 2002	Expired
60/385,988	June 5, 2002	Expired

I hereby appoint the following attorneys and/or agents to prosecute this application and to transact all

169. The specification of the '806 Application included a reference to the June 2002 Provisional Applications:

RELATED APPLICATIONS

This application claims the priority of: U.S. Provisional Patent Application No. 60/385,979, entitled "Supermontage Architecture", and filed on June 5, 2002; and U.S. Provisional Patent Application No. 60/385,988, entitled "Security Processor", and filed on June 5, 2002

170. Alexander *et al.* also swore to the right to claim priority to the date of the June 2002 Provisional Applications.

I hereby claim the benefit under Title 35, United States Code, §119(e)(1) of any United States provisional application(s) listed below:

U.S. Serial No.	Filing Date	Status
60/385,979	June 5, 2002	Expired
60/385,988	June 5, 2002	Expired

I hereby appoint the following attorneys and/or agents to prosecute this application and to transact all

171. Alexander *et al.* knew when they reviewed the '806 Application that it claimed priority to the June 2002 Applications. Each inventor also knew that he or she was not an inventor on the June 2002 Provisional Applications. Accordingly, Alexander *et al.* were aware there was no common inventor.

172. Alexander *et al.* made knowingly false statements to the USPTO in this Declaration because there was no right to claim priority to the June 2002 Provisional Applications as each of Alexander *et al.* knew he or she did not contribute to the subject matter of either of the June 2002 Provisional Applications. Despite this knowledge, Alexander *et al.* under false and fraudulent pretense, claimed priority to the June 2002 Provisional Applications anyway.

173. Nasdaq's prosecution attorneys who drafted and filed the June 2002 Provisionals and the '806 Application submitted these Declarations to the USPTO knowing they contained false information.

174. Nasdaq's prosecution attorneys knew that there was no common inventor of the '806 Application with either of the June 2002 Provisionals. Despite this knowledge, Nasdaq's prosecution attorneys under false and fraudulent pretense, claimed priority to the June 2002 Provisional Applications.

175. The priority claim made by Nasdaq's prosecution attorneys and inventors of the '806 Application went unchallenged by the Examiner at the USPTO. Thus, the priority date limited the relevant prior art to only that prior art that predated June 5, 2002, the filing date of the June 2002 Provisional Applications.

176. Under false and fraudulent pretense, Nasdaq's prosecution attorneys and Alexander *et al.* claimed priority to the June 2002 Provisional Applications to backdate the filing date of the '806 Application.

177. By backdating the filing date of the '806 Application, the Patent Examiner limited his search to only prior art having a date before the backdated filing date of the '806 Application. This had the effect of limiting available prior art the Examiner could use to examine the patentability of the claims of the '806 Application.

178. The Examiner issued the '806 Application as the '506 Patent based on the false and fraudulent conduct by the Nasdaq prosecution attorneys and Alexander *et al.*

***Nasdaq ISE's Withholding OM Click Exchange™ Software
Manufactured by OM Technology AB from the USPTO***

179. Nasdaq ISE and its prosecution attorney Steven J. Lieb, and the solo inventor on the '707 and '093 Patents withheld material information, namely of OM Click Exchange™ software manufactured by OM Technology AB, during prosecution of the applications that led to the '707 and '093 Patents.

180. On November 2, 1999, Nasdaq ISE filed U.S. Patent Application No. 09/433,613 (the "'613 Application"), which issued as U.S. Patent No. 6,618,707 (the '707 Patent") on September 9, 2003. The sole inventor listed on the '707 is Gary Katz.

181. Before the '707 Patent issued, Nasdaq ISE filed a continuation application. U.S. Patent Application No. 10/418,908 (the "'908 Application") claims priority to the '707 Patent. The '908 Application issued as US 7,246,093 on July 17, 2007. The '707 Patent and the '093 Patent share the same disclosure. In the Nasdaq Lawsuit, Nasdaq ISE argued to the Court that "[t]he '707 and '093 Patents are directed to improvements to method and systems aimed at enhancing liquidity and the fair and accurate handling of electronic trades and transactions *through the*

use of data interfaces, allocation parameters, and various ‘tables’ for order processing. (Dkt. No. 38 at 24; *citing* ’707 Patent, 4:55-6:21, 8:44-66).

182. For example, Nasdaq ISE argued that “Claim 1 of the ’707 improve[s] how orders and quotes [for securities] can be received and processed *electronically*—by requiring allocation rules and tables to ensure fairness and liquidity in the market, thereby preventing traders from manipulating or otherwise taking advantage of market conditions or system limitation. Those practices go beyond replicating what occurs on a trading floor.” (*Id.* at 30).

183. Similarly, it argued that “Claim 1 of the ’093 Patent requires, among other elements, ‘a computer interface adapted to receive from a first market participant a block order,’ ‘a computer interface adapted to . . . receive responses to the transmitted information from the second market participants,’ and ‘processor means for allocating portions of the incoming order or quotation...based on the allocating parameters.” (*Id.* at 28; *citing* ’093 Patent cl. 1).

184. Nasdaq ISE’s expert, Mr. Vinella, argued to the PTAB during the related CBMR proceedings that the claimed invention in the ’707 and ’093 Patents is “the exchange” and Nasdaq ISE further clarified that the “claims require special purpose computers programmed to perform certain disclosed algorithms.”⁴² Each of the independent claims of the ’707 patent recites a “processor means for allocating

⁴² CBM2018-00021 (Paper 6 at 5), July 5, 2018.

portions of an incoming order [or quotation] among the plurality of received orders and quotations in the book memory means based on the allocating parameters in the system memory means.”⁴³

185. Similarly, each independent claim of the ’093 Patent recites a processor programmed with an algorithm for allocating the orders among responses received during a time period or stored in memory.⁴⁴

186. The common specifications of the ’707 and ’093 Patents disclose that the claimed “exchange 1 may be implemented on a general purpose computer under the control of a software program.”⁴⁵ Thus, Nasdaq ISE asserts that the software program deems the claimed exchange a special purpose computer because it runs OM Click Exchange™ software. . .”⁴⁶ The Nasdaq ISE told the PTAB that the OM Click Exchange is a software development framework to help construct an electronic exchange.⁴⁷

187. The PTAB found that the OM Click Exchange software was known off-the-shelf computer software at the time of the inventions claimed in the ’093 and

⁴³ ’707 Patent, cls. 1, 4, 12, 13, 16, 22, and 28.

⁴⁴ ’093 Patent, cls. 1, 3, and 5.

⁴⁵ ’093 Patent at 8:46-47; ’707 Patent at 8:44-46.

⁴⁶ ’093 Patent at 8:47-51; ’707 Patent at 8:46-48.

⁴⁷ CBM2018-00031 (Paper 47 at 59), January 17, 2019; CBM2018-00021 (Paper 42 at 55), January 17, 2019.

‘707 Patents.⁴⁸ Nasdaq ISE’s expert argued that electronic exchanges are built, at least in part, when a framework such as OM Click Exchange™ is used.⁴⁹

188. The patents’ disclosures admit that “Exchange 1 may further be implemented on an Open VMS system running the OM Click Exchange™ software manufactured by OM Technology AB.”⁵⁰

189. During the CBMR proceedings, the PTAB found that the OM Click Exchange™ software was known off-the-shelf computer software at the time of the inventions claimed in the ‘093 and ‘707 Patents.⁵¹ Thus, it was prior art to both the ‘707 and the ‘093 Patents.

190. Nasdaq ISE, its prosecuting attorney, and the sole inventor withheld from the USPTO, with the intent to deceive, information about OM Click Exchange™ software. The OM Click Exchange™ software was not submitted in an IDS.

191. The information was material because the OM Click Exchange™ software is “suitable software for performing the various functions described [in the

⁴⁸ CBM2018-00031 (Paper 86 at 23), Oct. 1, 2019; CBM2018-00021 (Paper 82 at 33-34), Oct. 1, 2019.

⁴⁹ CBM2018-00031 (Paper 86 at 27), Oct. 1, 2019 (*citing* Decl. of Mr. Vinella, Ex. 2032 ¶ 51, *see id.* ¶¶ 93-105).

⁵⁰ ‘093 Patent at 8:47-51; ‘707 Patent at 8:44-50.

⁵¹ CBM2018-00031 (Paper 86 at 23); CBM2018-00021 (Paper 82 at 33-34).

‘707 and ‘093 Patents]. . .” as admitted in the specifications of the ‘707 and ‘093 Patents.⁵²

192. This information, either by itself or in combination with other information, is a *prima facie* case of unpatentability under 35 U.S.C. §§ 102-103 with respect to the claimed inventions of ‘707 and ‘093 Patents.

193. Any reasonable examiner would have considered the OM Click Exchange™ software critical to the patentability of the inventions claimed in the ‘707 and ‘093 patents and would have rejected the claims that issued and were later asserted in this litigation.

Nasdaq’s Failure To Conduct A Pre-Filing Investigation

194. It is evident from the record that Nasdaq conducted no reasonable pre-filing investigation prior to filing the Nasdaq Lawsuit.

195. For starters, Nasdaq alleged infringement of a patent claim that had already been found invalid. (Nasdaq Lawsuit Complaint (hereinafter “Compl.”) ¶ 37). Claim 4 of the ‘707 patent was found invalid in *Chicago Board Options Exchange, Inc. v. International Securities Exchange, LLC*, 07-cv-0623, Dkt. Nos. 716, 722 (N.D. Ill April 10, 2013) (final judgment and order).⁵³ This litigation history should not have eluded Nasdaq since right before ISE was acquired by

⁵² ‘093 Patent, 8:46-57; ‘707 Patent 8:44-55.

⁵³ Nasdaq acquired the International Securities Exchange, along with its ‘707 patent. (See, Compl. ¶¶ 4, 13).

Nasdaq, it was ordered to pay over six million dollars in attorneys' fees for asserting this same patent against another exchange. Again, had a minimally diligent pre-suit investigation been done, this claim would have never been asserted against MIAX.

196. Next, Nasdaq has sued every corporate entity associated with MIH, alleging patent infringement and misappropriation of "trade secrets" by former Nasdaq employees.

197. Among the entities sued by Nasdaq are MIAX Technologies, a MIAX technology company, which has yet to sell an electronic trading system to an exchange, but which has started competing with Nasdaq—even bidding directly against them—for large technology contracts.⁵⁴

198. In the Nasdaq Complaint, Nasdaq fails to make *any* factual allegation against MIAX Technologies in *any* count asserting patent infringement. (*See*, Compl. ¶¶ 38-50; 51-64; 67-68; 77-88; 89-102; 113-124).

199. Nor does Nasdaq make any factual allegations against MIAX Technologies in the trade secret misappropriation Counts. (*See* Compl. ¶¶ 125-173). Instead, Nasdaq lumps together its infringement and trade secret allegations against

⁵⁴ *See* "After Mishaps, Nasdaq Loses Standing to Rivals", Popper, N., N.Y. Times, *available at* <https://dealbook.nytimes.com/2013/08/23/after-mishaps-nasdaq-loses-standing-to-rivals/> (Aug. 23, 2013) ("One source of profits [for Nasdaq], somewhat unexpectedly given this week's [technical failures], has been Nasdaq's trading platform technology, which the company has sold to other exchanges around the world.").

a catch-all term “MIAX” — defined to include every single corporate entity associated with MIH during the time. (*See*, Compl. at 2).

200. Had Nasdaq done a minimum amount of due diligence before bringing the action it would have known that MIAX Technologies does not own the ’461 Patent – which Nasdaq alleges comprises Nasdaq Trade Secrets— nor does it employ any of the former Nasdaq employees who allegedly took Nasdaq trade secrets.

Nasdaq’s Litigation Is Objectively Baseless and a Sham

201. The Nasdaq Lawsuit was objectively baseless and a sham, highlighting the ulterior motives for Nasdaq’s filing the action as part of a multi-prong strategy to stifle competition. Indeed, years before the Nasdaq Complaint was even docketed, Nasdaq’s then Vice President Sandy Frucher threatened to put MIAX out of business.

202. Upon information and belief, Frucher directed the Nasdaq Lawsuit to crush MIAX, knowing that at the time MIAX had not yet been profitable and had to raise capital to sustain itself. A very expensive lawsuit would certainly paralyze MIAX’s ability to further raise the capital needed to sustain its losses and grow. Frucher also knew MIAX intended to launch additional exchanges, and the filing of a lawsuit would make it nearly impossible to raise financing from investors, or alternatively, would allow capital raises only at extremely high interest rates, in a

very low interest rate environment. A direct result of this tactic means financing has become much more expensive and dilutive to its shareholders.

Assertion of the Fraudulently Procured '051 Patent

203. During the CBMR proceedings, Nasdaq argued that the '051 Patent claims a “multi-parallel fault-tolerant system [that] is an improvement over prior art electronic securities trading systems, because it makes conventional load balancing (where trade volume is distributed evenly across processing units) ‘smart’—i.e., the innovative system’s architecture utilizes a look-up table that diverts trades to specific securities processors programmed to handle trades for specific securities based on the content or characteristics of trades received.”⁵⁵

204. Nasdaq further argued that it “invent[ed] a *specific way* to route incoming data that achieves load balancing in a manner that had not been done before.”⁵⁶ This *specific way*, according to Nasdaq, is a “split engine” that incorporates “a multi-parallel architecture of securities processors.”⁵⁷

205. It further argued that the “lookup table” wasn’t any ordinary lookup table, but that the “securities processors are also separated into specific assignments based on an individual security identifier, and those assignments are controlled by a

⁵⁵ CBM2018-00030 (Paper 25 at 78), Jan. 14, 2019.

⁵⁶ *Id.* at 2.

⁵⁷ *Id.* at 6.

complex lookup table.”⁵⁸ Further, the “claims recite a lookup table having a specific two-part, message content-based structure.”⁵⁹

206. Nasdaq further argued that the “configurable look-up table [] both identifies the securities having specific securities processor assignments, and provides routing instructions for processing orders for securities that do not have specific assignments.”⁶⁰ “The claimed configurable lookup table,” as contended by Nasdaq, “changes the messages routing paths within the electronic trading system.”⁶¹ “The claimed configurable lookup table is capable of routing a message to the right securities processor for execution regardless of whether *a single securities processor is dedicated to handle that security, or whether that security is generally processed.*”⁶²

207. In distinguishing over prior art, Nasdaq argued that “existing load balancing techniques . . . did not balance the load according to instructions in a look-up table based on a message containing a unique security identified.”⁶³ “The challenged claims thus provided,” Nasdaq argued, “a specific, dynamic load

⁵⁸ *Id.* at 7.

⁵⁹ *Id.* at 2.

⁶⁰ *Id.* at 13.

⁶¹ *Id.* at 86.

⁶² *Id.*, (Paper 6 at 18), July 19, 2018 (emphasis added).

⁶³ *Id.* at 27 (citing Decl. of Mr. Vinella Ex. 2017 ¶¶ 82-86).

balancing technique implemented on a multi-parallel architecture that minimized delay and increased throughput in a computerized trading system.”⁶⁴

208. As Nasdaq represented to the PTAB:

“What this lookup table does is it interrupts that process or changes that [routing] process to how, the messages come in. They are unpacked to determine what security they are relevant to. The lookup table is consulted. And based on the two parts of the look-up table, the securities processor is assigned to the incoming message.”⁶⁵

209. In its Complaint, however, Nasdaq does not assert that MIAX Options or MIAX PEARL - the Accused Exchanges - have any of these features it represented during the CBMR proceedings are required by the claims of the '051 Patent. Nasdaq's position on what the claims require for infringement is wholly inconsistent with what it argued the claims require when it was defending their validity.

210. In the Complaint, Nasdaq alleges that MIAX's exchange is a “system in an electronic securities market” that has a “matching engine” and utilizes “main memory coupled to the matching engine” that includes an “[order] book.”⁶⁶ (*See*, Compl. ¶¶ 91-93).

⁶⁴ *Id.*

⁶⁵ *Id.* (Paper 63 at 37:14-19), Sept. 24, 2019.

⁶⁶ The order book as alleged *supra* in memory was contributed by the Accenture contractors during the collaboration, and thus, is part of the fraud on the patent office in procuring the '051 Patent. *See supra*, e.g., ¶¶ 79, 89, 93-99, 103, 111-114.

211. Nasdaq also alleges that orders and quotes for securities from market makers and members are sent to MIAX through one of two gateways to its exchange. (*See*, Compl. ¶¶ 95-96). The MIAX documentation relied upon by Nasdaq, however, clearly states that it uses the “FIX protocol” – an industry-wide prior art standard, for both application messages. Not the *specific* and *smart* configurable look-up table that both identifies the securities having specific securities processor assignments, and provides routing instructions for processing orders for securities that do not have specific assignments, as Nasdaq represented to the USPTO is required by all of the claims.

212. Nasdaq’s infringement allegations are objectively baseless because they fail to allege that the Accused Exchanges employ the specific configurable lookup table Nasdaq contends is the ground breaking feature of the patent: the so-called “two-part look-up table” “having a specific two-part, message content-based structure.”

213. Nasdaq’s allegations are equally baseless with respect to the “multi-parallel architecture” element of the claims of the ’051 Patent which Nasdaq represented to the USPTO is not merely adding “additional processing units to the

trading system.”⁶⁷ Instead, it is a “multi-parallel, fault-tolerant system”⁶⁸ that is “*intelligent*.”

214. But in the Complaint, Nasdaq took a different position. Nasdaq alleges that the Exchange has multiple matching engines (processors) and thus infringes. But merely having additional processors in a trading system is exactly what Nasdaq told the PTAB was in the prior art and not the basis for its patent claims:

At the time of the invention, some electronic trading systems attempted to address this overload by adding additional processing units to the trading system, and distributing trades across those processing units according to traditional load balancing techniques.⁶⁹

215. Nasdaq’s admission of the prior art demonstrates that at the time of the Nasdaq Complaint, it knew either that its patents were invalid over the prior art or, alternatively, that the Accused Exchanges did not employ the features Nasdaq contended during the CBMR proceedings are required by the ’051 Patent.

216. Moreover, Nasdaq and Serkin *et al.* also knew that both the prior art OptiMark System and the LSE Platform both included multiple securities processors and a routing system to route securities order to those securities processors.

⁶⁷ CBM2018-00030 (Paper 25 at 6).

⁶⁸ (Paper 6 at 15); *see also* Dkt. No. 38 at 42.

⁶⁹ CBM2018-00030 (Paper 25 at 6).

Assertion of the Fraudulently Procured '827 Patent

217. During the CBMR proceeding, Nasdaq similarly represented that the claims of the '827 Patent also require “a ‘split-engine’ or ‘joint architecture’ that makes conventional load balancing ‘smart’ or ‘intelligent’, *i.e.*, the architecture utilizes security-based processor assignments that divert trades to specific securities processors based on unique characteristics of trades received.”⁷⁰

218. Nasdaq argued that the “the order routing system also processes messages separately and distinct from the plurality of securities processors” and that the “patent claims describe an innovative architecture (a distributed network of securities processors along with an assignment-based routing system that together form a multi-parallel architecture having trade-based load-balancing. . .) that was an improvement.”⁷¹

219. But just as with the '051 Patent, Nasdaq advances a wholly inconsistent and contradictory reading of the claims to allege infringement.

220. Nasdaq asserts in the Complaint that the Accused Exchanges infringe the '827 Patent merely because they allegedly have multiple processors and an order routing system that routes security interest messages (security orders) to one of the securities processors. (*See*, Compl. ¶105).

⁷⁰ CBM2018-00032 (Paper 6 at 21), August 21, 2018.

⁷¹ *Id.* at 43.

221. Nasdaq’s infringement allegations are objectively baseless for two reasons: first, there is no reasonable basis for alleging that the Accused Exchanges implement a so-called a ‘split-engine’ or ‘joint architecture’ that makes conventional load balancing ‘smart’ or ‘intelligent,’ features Nasdaq asserted to the PTAB were required by the ’827 Patent; and second, Nasdaq’s alleged infringement based on “a plurality of processors” relies on a construction of the scope of the claims that is much broader than it argued before the PTAB. Nasdaq knows that this asserted broader scope for purposes of infringement puts the claims squarely in the prior art. As it stated to the PTAB on the subject of using additional processors:

At the time of the invention [of the ’827 Patent], some electronic trading systems [included] adding additional processing units to the trading system, and distributing trades across those processing units according to traditional load balancing techniques.⁷²

222. Moreover, Nasdaq and Richmann et al. also knew that both the OptiMark System and the LSE Platform included a plurality of securities processor and a routing system to route securities orders to those securities processors.

Assertion of the Fraudulently Procured ’506 Patent

223. Nasdaq argues to the PTAB that the ’506 Patent claims require that the system receive an indicator signal transmitted in a specific fashion: “sequentially,

⁷² *Id.* (Paper 33 at 4).

repeatedly, *and independently of receipt of attributable security interest messages*” from a client recipient.⁷³

224. Nasdaq contends that “[b]y proactively sending the indicator signal *independently* of the receipt messages the ‘506 patent claims are more responsive in determining availability, and hence failing over if necessary, than acknowledgment messages.’”⁷⁴

225. Nasdaq also represented during the CBMR proceeding that the claimed “indicator signal” was not a “heartbeat.”⁷⁵

226. But in their Complaint, Nasdaq points to MIAX’s implementation of a “heartbeat” sent from a client system every second to the MIAX system as the claimed “indicator signal” it told the PTAB *excludes* heartbeats. (*See*, Compl. ¶ 81).

227. In the Complaint, Nasdaq alleges: “For example, a specific message type of MIAX’s FOI is a ‘Heartbeat.’ The client (MIAX member) computer sends this indicator signal or message every second to the MIAX system. The procedure declares the client to be offline (i.e., “link is lost”) when there is no signal for a defined period (e.g., “3 Heartbeat intervals”).” This alleges exactly the type of

⁷³ CBM2018-00029 (Paper 6 at 57), July 12, 2018.

⁷⁴ *Id.* (Paper 29 at 42), Jan. 17, 2019 (emphasis added).

⁷⁵ *Id.* at 16 (*citing* Decl. of Mr. Vinella’s, Ex. 2024, 41 fn. 5 (“This should not be confused with the standard network diagnostic typically referred to as a heartbeat or ping.”)).

heartbeat it argued to the PTAB was different from the “indicator signal” claimed in the ’506 Patent.

228. Nasdaq relies on MIAX documentation that describes its messaging protocol, but this documentation expressly notes that MIAX uses a prior art messaging protocol (FIX protocol version 4.2) which Nasdaq knew is prior art to the ’506 Patent—because it is an industry standard.

1 Overview

MIAX FIX Orders Interface (**FOI**) is a messaging interface that allows MIAX members and sponsored firms to send and manage their Options orders. FOI also facilitates real-time electronic communication of transaction information corresponding to such Option orders.

FOI is a flexible interface that uses FIX protocol version 4.2 with minor customization of certain tags. FOI uses FIX protocol for both application messages and session level messages. This document describes the messages that will be supported by FOI. For detailed information regarding FIX protocol and session protocol, please refer to the FIX documentation provided by FIX Protocol Limited (FPL) on their website <http://www.fixprotocol.org>

This specification is intended to only be used by MIAX member firms and the firms that are sponsored for MIAX access by MIAX member firms.

229. As also pointed out in the Complaint, use of the FIX protocol has been adopted by most participants in the Options industry, including MIAX. Thus, it is well-known prior art.

FOI Features:

FOI has been designed for flexibility, reliability, low latency and high throughput messaging. Some of the key features of the interface are:

- Use of FIX protocol that has been adopted by most of the participants in the Options industry. FIX tag/value messaging is a **flexible** messaging protocol that eliminates platform dependencies and allows to largely decouple exchange and firm deployments.

Assertion of the Fraudulently Procured '707 Patent

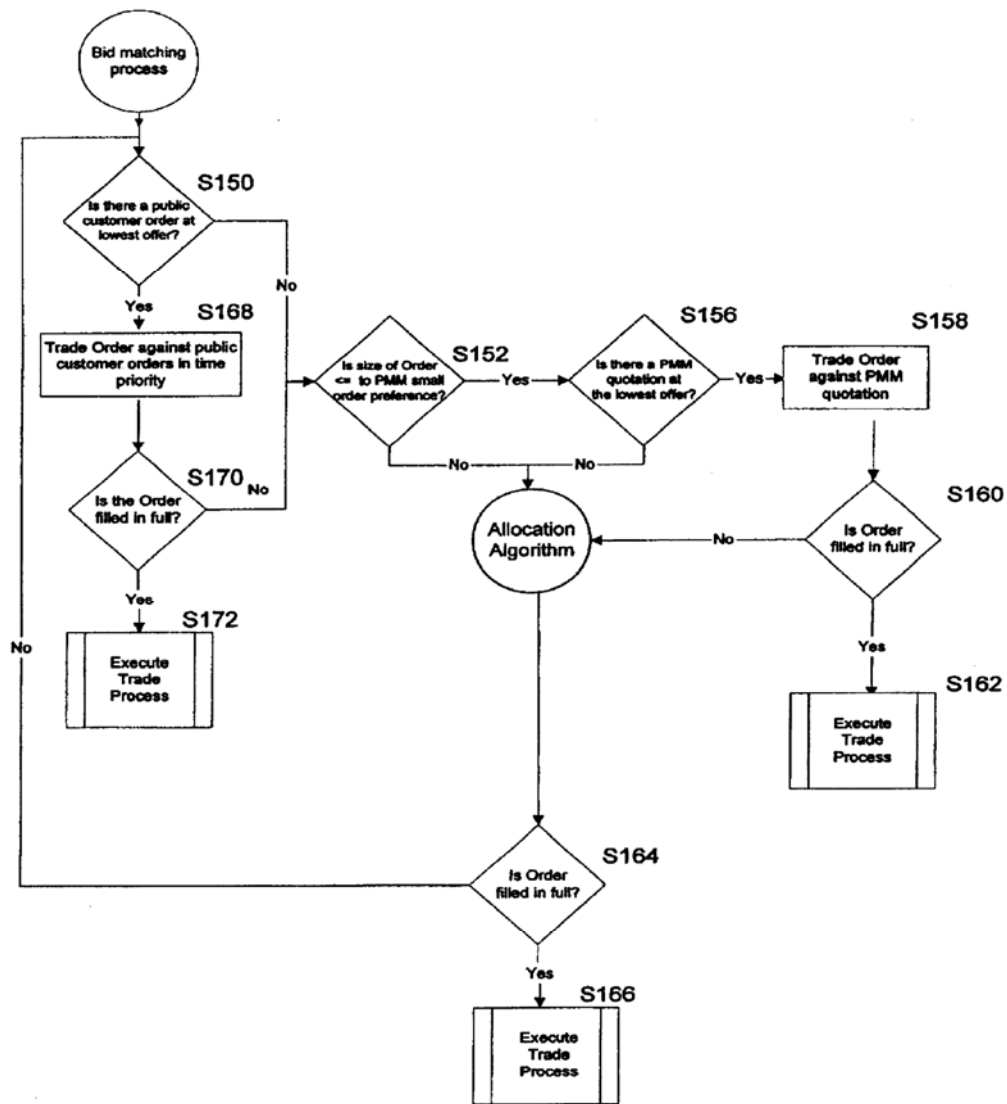
230. During the CBMR proceedings, Nasdaq ISE argued to the PTAB that, because the allocating limitation in the '707 Patent is drafted in the form of a means-plus-function claim, it required construction under 35 U.S.C. 112, ¶ 6, and the recited algorithms disclosed in the '707 patent specification are part of the claims.⁷⁶

231. The algorithms are set forth in Figures 4(a), 4(b), 5(a) and 5(b) of the '707 Patent and are additional limitation of the claims.⁷⁷

232. Figure 4(a) shown below is an example of the additional limitation required by the '707 Patent claims:

⁷⁶ CBM2018-00021 (Paper 82 at 61), Oct. 1, 2019.

⁷⁷ *Id.*

**FIG. 4(a)**

233. Figure 4(a) describes a specific matching process for public customer orders referred to at step S150 and S168 having an order size referred to at step S152.

234. The specification provides an example at 16:1-25 (emphasis added):

As a first example, assume that an incoming order to buy 4 contracts at $3\frac{1}{2}$ is sent to the bid matching process 34 by the order process 25. The bid matching process 34 determines at step S150 of FIG. 4(a) that there is a public customer order at the lowest offer. The bid matching process 34 trades the incoming order to buy 4 contracts with the public customer order in the book memory 33 at step S168. At step S170, the bid matching process determines that all 4 contracts in the incoming order have been matched. The match between the incoming order and the customer order in the book memory 33 is sent to the execute trade process 27 in step S172.

As a second example, assume the same book as shown in Table I and an order to buy 30 contracts at $3\frac{1}{2}$ is sent to the bid matching process 34. As shown in FIG. 4(a), the bid matching process 34 completes step S168 as above, matching 10 contracts of the incoming order with the public customer order to sell 10 contract at $3\frac{1}{2}$. At step S170, however, the bid matching process 34 determines that there are still 20 contracts of the incoming order remaining and therefore moves to step S152. At step S152, the bid matching process 34 determines that the original size of the incoming order was greater than the PMM small order preference size, which is assumed to be 5 contracts for the purpose of this example. **The bid matching process then applies the allocation algorithm as illustrated in FIG. 4(b).**

235. The '707 Patent has a similar disclosure with respect to Fig. 4(b) in connection with professional orders.⁷⁸

236. During the CBMR proceedings, the PTAB found that Figures 4(a), 4(b), 5(a) and 5(b) concern the same allocating functions and criteria recited in the aforementioned limitation of independent claim 1.⁷⁹ Accordingly, the PTAB

⁷⁸ '707 Patent at 16:26-67.

⁷⁹ CBM2018-00021 (Paper 82 at 20), Oct. 1, 2019.

construed the “processor means for allocating” limitation in all of the independent claims to require the precise algorithms set forth in Figures 4(a), 4(b), 5(a) and 5(b).⁸⁰

237. Nasdaq ISE’s overly broad and misleading claim constructions in the Complaint are contrary to the statements that Nasdaq ISE made to the USPTO during the CBMR proceedings of the same patent in order to overcome the invalidity challenge. There, Nasdaq ISE told the PTAB that the claims required the algorithm shown in the patent. But in the Complaint, they make a contradictory allegation.

238. In the Complaint, Nasdaq ISE ’707 Patent allegations do not plead that either Accused Exchange meets the algorithm limitations in Figures 4(a), 4(b), 5(a) and 5(b).⁸¹ (See Compl. ¶¶ 36-50). These are limitations that Nasdaq ISE told the PTAB the claims require.

Misuse of the ’371 Patent

239. The claims of the ’371 Patent recite a method for cancelling pending orders for financial articles. The method recites, among other things, “based on matching, terminating, by one or more switches, at least one communication session between an entity and a corresponding liquidity destination; and cancelling, by one or more processors, pending orders from the entity.”⁸²

⁸⁰ ’707 Patent at 20-21.

⁸¹ The allocation algorithms disclosed in Figures 4(a) through 5(b) are specific as to when and how the algorithm is applied to a customer and professional order.

⁸² ’371 Patent, cl. 1.

240. FTEN represented to the PTAB during the CBMR proceedings that *the switch* as claimed has “the ability to terminate a communication session based on event matching.”⁸³ FTEN further argued that prior art switches “typically operated at the packet level,” whereas a communication session “conventionally operated at another, higher layer” and “event matching was conventionally done [] by an application program at a still higher level.”⁸⁴ Thus, FTEN argued that the claimed “switch” wasn’t any old switch, but a new and improved switch.

241. FTEN said, “[w]hat the inventors did was architect a switch (then typically operating at layers 2 and 3 and unaware of the meaning of data it passed at the higher layers) to terminate a communication session (typically a service provided by layer 5) based on event matching & typically provide by layer 7).”⁸⁵

242. FTEN took a drastically different view of what the claims meant, however, when alleging MIAX infringed the ’371 Patent. There, FTEN provided overly broad and misleading claim constructions in its allegations.

243. In the Complaint, FTEN does not allege that the Accused Exchanges employ this special “switch” that is aware of the meaning of data it passes at higher layers. And for good reason. They cannot.

⁸³ CBM2018-00020 (Paper 46 at 22), Jan. 15, 2019.

⁸⁴ *Id.* at 8-9.

⁸⁵ *Id.*; *see also* (Paper 73 at 10) (arguing that the claimed switch is unconventional because prior art switches “lacked knowledge of the higher network layers where communication sessions are managed.”)

244. Nor does FTEN rely on any MIAX documentation that suggests the Accused Exchanges have a switch that actually terminates the underlying communication session with the entity upon an event. *See, e.g.*, Compl. ¶¶ 116,117. In contrast, FTEN relies on documentation in the Complaint that actually indicates there is no termination of the communication session. And as such, there can be no infringement.

245. FTEN cites:

(b) (1) **Aggregate Risk Manager.** The System will engage the Aggregate Risk Manager in a particular option class when the counting program has determined that a Market Maker has traded during the specified time period a number of contracts equal to or above their Allowable Engagement Percentage. The Aggregate Risk Manager will then automatically remove the Market Maker's quotations from the Exchange's disseminated quotation in all series of that particular option class until the Market Maker sends a notification to the System of the intent to reengage quoting and submits a new revised quotation.

(*See, id.* at ¶117 (p 61)).

246. As stated above, when a Market Maker has traded a number of contracts equal to or above their Allowable Engagement Percentage, *their quotations are removed*. Nasdaq knows that removing quotations is not the same as terminating a communication session with the entity. The documentation further notes that the Market Maker sends a notification to *reengage quoting* and *submits a new revised quotation*. The documents FTEN relies upon indicate that there is no termination of the underlying communication session, but rather any additional quotations are removed when a market maker meets or exceeds its quota.

247. FTEN's assertions of inconsistent positions to the PTAB and the District Court are for the purpose of saving a patent knowingly invalid so that it could be maintained in a sham litigation knowing that the claims are not met by the Accused Exchanges.

248. Nasdaq's infringement claims on all the asserted patents are objectively baseless and have been maintained by Nasdaq for the purpose of inflicting collateral, anti-competitive injury on MIAX and the market. In addition to the damage to the market, MIAX suffered substantial damages as a result of Nasdaq's unlawful activities, including, but not limited to, the loss of profits they otherwise would have made. MIAX was also forced to expend millions of dollars in legal expenses to defend itself against Nasdaq's sham patent infringement claims.

NASDAQ'S OTHER EXCLUSIONARY CONDUCT

Nasdaq's SEC Foreclosure Scheme

249. Nasdaq not only waged war against competition and competitors before the PTO and the courts. It also took its any-means-necessary campaign to shield itself from the vigors of competition to the SEC in a shameless and desperate effort to prevent competitors from being able to launch their exchanges.

250. Any company wishing to be a national securities exchange must be registered with the SEC under Section 6 of the Securities Exchange Act of 1934.

251. Seeing an opportunity to potentially prevent MIAX from entering the market, in October 2012, Nasdaq submitted a letter to the SEC, urging it to reject MIAX's application to register as a national securities exchange.⁸⁶ Wasting no opportunity for irony, Nasdaq included in its letter a statement that it "supports competition in the options markets and has long championed the benefits of new entrants. . . ." Nasdaq then went on to urge the SEC to effectively shut a new entrant – MIAX – out of the market. The SEC rejected Nasdaq's efforts and approved MIAX's application.

252. Nasdaq, however, did not stop there. Nasdaq later attempted to block the SEC from approving the registration of yet another new entrant, IEX, going so far as to threaten litigation against the Commission.⁸⁷ Again, the SEC spurned Nasdaq's effort to exclude a rival from the market and approved IEX's application.

253. But Nasdaq wasn't done. When MEMX, a new entrant created by a number of large bankers and brokers, sought SEC approval as a national securities exchange in 2019, Nasdaq struck again. Demonstrating again that it should be judged by its deeds and not its words, Nasdaq told the SEC that it "welcomes the prospect of MEMX's entry into what is already a vigorously competitive market,"

⁸⁶ Letter from Nasdaq OMX to U.S. Securities and Exchange Commission, *available at* <https://www.sec.gov/comments/10-207/10207-2.pdf> (Oct. 4, 2012).

⁸⁷ See "Nasdaq Goes Nuclear On The SEC," Tuner, M.; Feloni, R.; INSIDER, *available at* <https://www.businessinsider.com/nasdaq-law-suit-threat-iex-sec-2016-5> (May 19, 2016).

just before it urged the SEC to reject the application. Nasdaq's obstruction yet again failed, and the application was approved.

Nasdaq's Campaign of Commercial Disparagement

254. Nasdaq also launched a campaign of commercial disparagement to block MIAX from the market. Nasdaq was well aware that the vast majority of financial exchanges would be very concerned about taking the risk of purchasing an electronic trading system that was the subject of an intellectual property dispute: particularly one brought by the dominant supplier in the market. Their concerns would include potential repercussions from political and/or regulatory oversight bodies in their country; the risk of being unwittingly dragged into litigation; the very grave risk of having to undertake the enormous cost and significant operational risk of switching systems; and the risk of leaving customers disgruntled about having to incur the time and expense of adapting to the new system.

255. Knowing that regulated entities such as financial exchanges would be extremely sensitive about doing business with a company accused of stealing technology, Nasdaq made sure to contact potential customers of MIAX to let them know of its intellectual property claims, and to falsely tell them that MIAX had "stolen" its technology. So widespread was Nasdaq's disparagement campaign that MIAX representatives heard time and again from potential customers that they had

learned of the patent litigation from Nasdaq, which had accused MIAX of having “stolen” its technology.

Nasdaq’s Product Bundling

256. As alleged previously, during the last fifteen years, Nasdaq has acquired numerous companies that enable it to provide a wide range of financial market trading products and services.

257. In fact, Nasdaq now boasts on its website that it offers to customers today “robust end-to-end solutions to financial infrastructure providers. . . . [that relies on] a single operational core that ties together the deep portfolio of Nasdaq’s proven business functionality across the trade lifecycle. . . .”⁸⁸ Nasdaq calls this “end-to-end solutions” offering the *Nasdaq Financial Framework (NFF)*.

258. With respect to the trading and execution phase of a trade lifecycle, Nasdaq today offers customers the following products and services, among others, with its electronic trading system:

- a. Pre-Trade Risk Technology (risk controls or risk checks to ensure protection to mitigate multi-asset risk upfront);
- b. Index Calculation Technology (“computes and disseminates multi-asset, multi-currency indexes);
- c. Nasdaq Market Surveillance (monitors trading activity to detect regulatory irregularities;

⁸⁸ See “Solutions for Market Infrastructure Operators”, *available at* <https://www.nasdaq.com/solutions/solutions-for-market-infrastructure-operators>.

- d. Marketplace Intelligence Technology (data and analytics tools);
- e. Marketplace Advisory Services (“strategic and operational guidance”); and
- f. Marketplace Services Platform (cloud-based marketplace creation).

259. No other electronic trading system competitor can offer nearly the range of financial market infrastructure products and solutions that Nasdaq is able to provide.

260. Nasdaq takes advantage of the breadth of its offerings by bundling its high-performance electronic trading system with its other products and services, and offering a discount across the bundle that forecloses from the market high-performance electronic trading system competitors, including MIAX. Nasdaq’s bundling strategy further ensures that exchange customers will not buy MIAX’s products, even though they offer superior performance and substantially lower operating costs than Nasdaq’s products.

261. On information and belief, Nasdaq then takes advantage of the high costs of switching high-performance electronic trading systems by raising its prices on the ongoing products and services it sells to its exchange customers.

THE RELEVANT MARKETS

High-Performance Electronic Trading Systems Market

262. High-performance electronic trading systems allow exchanges to match buyers’ and sellers’ bids and offers for a particular security according to a set of rules

governing the priority of submitted bids and offers, and execute the trades in nanoseconds and, in some cases, enable exchanges to process millions of transactions per second.

263. High-performance electronic trading systems are unique because there is no other product or physical trading system or platform that can match the speed, efficiency or accuracy of such software platforms in matching buyers' and sellers' bids and offers of financial instruments, according to priority rules, and executing their trades.

264. Moreover, physical trading floors cannot come close to the performance of high-performance electronic trading systems, and therefore are not reasonable substitutes for such products.

265. High-performance electronic trading systems used by financial exchanges for the high-speed and deterministic matching of orders for securities or other financial instruments and executing the trade is a relevant market. The features that distinguish such systems from low-performance electronic trading systems typically include:

- High throughput (number of messages and transactions per second);
- Low latency (the time it takes for data (orders and quotes) to travel from one point to another, with very few "outliers");

- Highly deterministic sequential processing (ability to process inbound order and quote traffic from the “edge” of the network to the matching engine in the order in which they were received);
- High volume capacity (capacity to handle billions or even tens of billions of orders and quotes per day);
- High product/symbol capacity (ability to handle a very high volume of different products/symbols);
- Scalability (ability of the system can handle an increase in the number of trades without additional software changes); and
- High reliability (with respect to quality of executions and downtime).

266. High-performance electronic trading systems are purchased by financial exchanges because the volume and/or frequency of trades that the exchange executes or hopes to execute requires low latency, high reliability, and for other competitive reasons such as competition from a rival exchange, and because they have the financial means to invest in such systems. Most such exchanges either handle a very large amount of “high-speed” trading (many trades among the same group of traders), or a very high volume of trades.

267. High-performance electronic trading systems are also significantly more expensive than low-performance systems. While low-performance systems can be typically purchased for less than \$300 thousand, high-performance systems typically cost many times that.

268. The relevant market excludes electronic trading systems that do not offer the high levels of performance (with respect to high-throughput, low latency,

determinism, high volume and product/symbol capacity, scalability, and reliability) offered by high-performance systems and that cost substantially less than high-performance systems. Exchanges that need or desire high-performance systems would not consider low-performance systems to be reasonable substitutes because they do not offer the level of performance needed by the exchange to capably handle their trading activity (with respect to throughput, latency, and other performance measures), or would not otherwise allow them to meet their business objectives, including competing for new business from customers who would expect the level of performance offered by high-performance systems.

269. Electronic trading systems are sourced and sold globally, and the relevant geographic market is therefore global.

Relevant Submarkets

270. Some of the largest, highest-volume financial exchanges with the technological and financial means to build and use their own electronic trading systems choose to do so rather than purchasing from a third-party. Many financial exchanges, however, do not have such capabilities and resources, or, for other reasons, strongly prefer to buy rather than build a system. Accordingly, building their own high-performance electronic trading systems is not a reasonable substitute for purchasing one from a third-party supplier.

271. The global sale and leasing of high-performance electronic trading systems from third-parties is therefore a relevant submarket.

272. Financial exchanges do not often purchase or lease electronic trading systems. Rather, they generally purchase a system and then use it for many years. Indeed, while the systems might be upgraded in various ways during years of use, a single exchange might use the same high-performance electronic trading system for ten years, or more.

273. When a financial exchange does seek to purchase a new system, it may consider a single supplier or multiple suppliers (although, as alleged herein, exchanges today rarely consider *any* supplier without also considering Nasdaq). Either way, each sales opportunity for electronic trading systems is, for all practical purposes, a single, winner-takes-all competition.

274. Thus, whether or not a formal Request for Proposal (“RFP”) process is used, each, separate electronic trading system procurement constitutes a single “bid market.”

275. Because potential electronic trading suppliers for each such bidding opportunity operate around the world, the relevant geographic market for such bid markets is global.

High-Performance Matching Engine Technology Market

276. Finally, a separate technology market exists for the licensed technology used in high-performance electronic matching engines, that match bids and offers for particular financial instruments using one or more algorithms and other capabilities of the system, and then executes the trades resulting from the matching process.

277. High-performance matching engine technology enables the electronic trading system to match trades much faster, and more accurately, than low-performance matching engine technology.

278. There are no reasonable substitutes for high-performance matching engine technology. Low-performance matching engines do not offer the speed, accuracy and other trade matching and execution performance metrics offered by high-performance engines, and humans cannot possibly come close to performing this function as quickly or as accurately.

279. The high-performance matching technology market includes the trading matching technology that is the subject of Nasdaq's fraudulently obtained patents asserted against MIAX, and which are the subject of MIAX's claims, and all competing technology offered by MIAX and other suppliers.

280. Because high-performance matching engine technology is licensed globally, the relevant trading matching engine technology market is global.

NASDAQ'S MONOPOLY POWER

The High-Performance Electronic Trading System Market and Submarket

281. Today, Nasdaq touts that it provides “[t]he most widely used matching technology. On the planet.”⁸⁹ It admits to powering trading at more than 70 markets globally. *Id.* According to Nasdaq, its revenues in 2020 for its Market Technology was over \$350,000,000.⁹⁰

282. In fact, Nasdaq has dominated the market for high-performance electronic trading systems for at least the last ten years. Although it has faced competition from various suppliers over the year, none has been able to dislodge Nasdaq from its dominant position.

283. In the last several years, Nasdaq has been able to not just protect but grow its dominant position through its predatory scheme to block MIAX and other competitors who threatened Nasdaq’s dominant position and through other exclusionary conduct, including, but not limited to, its bundled pricing practices and purchasing other suppliers of trading systems such as Cinnober.

⁸⁹ See, “Trading and Matching Technology”, Nasdaq, *available at* <https://www.nasdaq.com/solutions/trading-and-matching-technology>.

⁹⁰ See, “Nasdaq Reports Fourth Quarter and Full Year 2020 Results; Delivers Strong Growth in Revenue and EPS”, *available at* <https://www.nasdaq.com/press-release/nasdaq-reports-fourth-quarter-and-full-year-2020-results-delivers-strong-growth-in> (Jan. 27, 2021).

284. Nasdaq has also been able to enhance its monopoly power through its arrangement with the Options Clearing Corporation (“OCC”). OCC clears all options traded on U.S. exchanges. In 2018, OCC was considering vendors to upgrade its clearing technology. Cinnober was among the vendors being considered. Nasdaq owned a forty-percent stake in OCC and, at the time, Nasdaq Vice Chairman Sandy Frucher sat on OCC’s board. On information and belief, Nasdaq used and continues to use its influence over OCC to steer the contract award to Cinnober, which Nasdaq was planning to purchase. Being the technology supplier to the sole options clearing-house in the U.S. further enhances Nasdaq’s dominance over the market for the supply of high-performance electronic trading systems in the U.S. because all U.S. options exchanges use OCC for clearing their trades.

285. On information and belief, Nasdaq’s share of the relevant market during the relevant time period and today is at least 70%, and that share has been increasing over the last several years. Today, there is no supplier of high-performance electronic trading systems that is able to sell more than a small fraction of what Nasdaq is able to sell.

286. Other high-performance electronic trading systems suppliers whose products can support significant, high-volume exchanges include the London Stock Exchange (“LSE”), Euronext and Deutsche Borsa. Notably, however, both LSE and

Euronext are retreating from this market, due in part to the challenges of successfully selling their products in the face of Nasdaq's dominant position and predatory conduct. Other suppliers do not offer the level of performance that high-volume exchanges demand. Accordingly, there remain today virtually no suppliers in the market with the ability and will to challenge Nasdaq's dominant position.

287. Nasdaq's monopoly power is also demonstrated by its success in excluding rivals, such as MIAX and others, from the market for high-performance electronic trading systems, and in causing previously successful competitors LSE and Euronext to begin to withdraw from the market.

288. There are significant barriers to entry in high-performance electronic trading systems for high-volume exchanges. The development of such highly-complex products requires specialized expertise and significant capital. In many countries, products must be approved by the local securities regulators before they can be used in that country. Moreover, because a trading system failure would shut down an exchange, high-performance trading system customers demand extremely high levels of performance and reliability, and successful entrants must both be able to demonstrate the high performance levels of their products, and have developed the reputation to earn the trust of those customers and of regulators.

289. Nasdaq's large and durable market share, its ability to exclude and drive rivals from the market and the significant barriers to entry in high-performance electronic trading systems demonstrate Nasdaq's monopoly power in the market.

290. Nasdaq also has monopoly power in the relevant global submarket for the sale and leasing of high-performance electronic trading systems, where its market share is even higher than it is in the primary market, where it has demonstrated the same ability to exclude its competitors, and where the barriers to entry are just as high.

The Relevant Bid Submarkets

291. Nasdaq has also dominated multiple relevant bid submarkets for many years. With respect to each individual bid market in which it was successful in selling its high-performance electronic trading system, Nasdaq has monopoly power, which it obtained through the range of exclusionary conduct alleged herein.

The Relevant Technology Market

292. Nasdaq also has monopoly power in the relevant technology market of the licensing of the technology used in high-performance matching engines. On information and belief, Nasdaq's market share in the technology market is at least 70%. Nasdaq has also demonstrated its monopoly power in the technology market through its ability to exclude competitors from the market.

293. In particular, Nasdaq's monopoly power in the relevant technology market arises from and is reflected in the fact that it has been able to fend off competition even from a competitor that offers demonstrably superior technology that would allow customers to execute trade matches at much higher speeds with much greater accuracy, and to do so at significantly lower costs than customers using Nasdaq's plainly inferior technology.

294. Indeed, because Nasdaq has succeeded in foreclosing the competitor with superior technology to Nasdaq's from both the relevant product markets and the technology markets, and because of Nasdaq's predatory conduct directed at all competitors, there is no participant in the market today with the ability to dislodge Nasdaq from its monopoly position in any of the relevant markets.

295. There are significant barriers to entry in the relevant market of the licensing of the technology used in high-performance matching engines. The development of such highly-complex products requires specialized expertise and significant capital. In many countries, products must be approved by the local securities regulators before they can be used in that country. Moreover, because a trading system failure would shut down an exchange, high-performance matching engine customers demand extremely high levels of performance and reliability, and successful entrants must both be able to demonstrate the high performance levels of

their products, and have developed the reputation to earn the trust of those customers and of regulators.

**NASDAQ HAS MARKET POWER IN THE
ALLEGED RELEVANT MARKETS AND SUBMARKETS**

296. In the alternative, Nasdaq has market power in the relevant primary market, the relevant submarkets, and the relevant technology market, as reflected by its market share in each such market, its ability to exclude rivals from those markets, and the high barriers to entry faced by any company attempting to enter each such market.

**NASDAQ'S CONDUCT HAS CAUSED INJURY
TO COMPETITION IN THE RELEVANT MARKETS**

297. Plaintiffs hereby re-allege and incorporate by reference the allegations contained in the preceding paragraphs as if fully set forth herein.

298. Nasdaq's exclusionary conduct has harmed competition. Through objectively baseless litigation and other predatory conduct, Nasdaq has foreclosed MIAX and other suppliers of electronic trading system from the market. Nasdaq's conduct has denied customers the ability to purchase products that would have provided superior levels of performance relative to Nasdaq's, and has raised both market prices and operating costs above competitive levels.

299. MIAX's actual injuries flow directly from these unlawful aspects of Nasdaq's acts and is the type of injury that the antitrust laws were intended to

prevent. MIAX is therefore entitled to recover its damages under Section 4 of the Clayton Act (15 U.S.C. § 15).

CLAIMS FOR RELIEF

COUNT I

Section 2 of the Sherman Act (15 U.S.C. § 2) and Clayton Act Sections 4 and 16 (15 U.S.C. §§ 15 and 26)

Monopolization – Walker Process

(U.S. Patent Nos. 7,921,051, 7,933,827, 7,747,506, 6,618,707 and 7,246,093)

300. Plaintiffs hereby re-allege and incorporate by reference the allegations contained in the preceding paragraphs as if fully set forth herein.

301. Nasdaq has monopoly power in the global market for high-performance electronic trading systems, in the global submarket for the sale and leasing of high-performance electronic trading systems, in the individual bid markets with financial exchange customers, and in the global technology market for the licensed technology used in high-performance matching engines.

302. Nasdaq secured U.S. Patent Nos. 7,921,051, 7,933,827, 7,747,506, 6,618,707 and 7,246,093 through knowing and willful fraud upon the PTO, then maintained and enforced these patents despite knowing of the fraud.

303. Defendants further misused their patents rights by knowingly asserting invalid and unenforceable patent claims, and also misrepresenting the scope of those claims against MIAX. Defendants presented overly broad and misleading claims constructions in the Nasdaq Lawsuit that are contrary to the statements that

Defendants made to the USPTO during the CBMR proceedings in order to avoid invalidity, albeit unsuccessfully.

304. Nasdaq has willfully maintained and abused its monopoly power in the relevant markets and submarkets through its knowing and willful fraud upon the USPTO, and its maintenance and enforcement of its patents despite knowing of the fraud.

305. By engaging in such conduct, Nasdaq reduced output in the relevant markets and submarket, and raised prices above competitive levels, to the substantial detriment of competition and consumers.

306. Nasdaq's anticompetitive and exclusionary conduct violates Section 2 of the Sherman Act, 15 U.S.C. § 2.

COUNT II

Section 2 of the Sherman Act (15 U.S.C. § 2) and Clayton Act Sections 4 and 16 (15 U.S.C. §§ 15 and 26)

Attempted Monopolization – Walker Process

(U.S. Patent Nos. 7,921,051, 7,933,827, 7,747,506, 6,618,707 and 7,246,093)

307. Plaintiffs hereby re-allege and incorporate by reference the allegations contained in the preceding paragraphs as if fully set forth herein.

308. Nasdaq has market power in the global market for high-performance electronic trading systems, in the global submarket for the sale and leasing of high-performance electronic trading systems, in the individual bid markets with financial

exchange customers, and in the global technology market for the licensed technology used in high-performance matching engines.

309. Nasdaq secured U.S. Patent Nos. 7,921,051, 7,933,827, 7,747,506, 6,618,707 and 7,246,093 through knowing and willful fraud upon the USPTO, then maintained and enforced these patents despite knowing of the fraud.

310. Defendants further misused their patents rights by knowingly asserting invalid and unenforceable patent claims, and also misrepresenting the scope of those claims against MIAX. Defendants presented overly broad and misleading claims constructions in the Nasdaq Lawsuit, that are contrary to the statements that Defendants made to the USPTO during the CBMR proceedings in order to avoid invalidity, albeit unsuccessfully.

311. Nasdaq's knowing and willful fraud upon the USPTO, as well as its maintenance and enforcement of the subject patents, and other conduct undertaken for the purpose of excluding competitors from the relevant markets, demonstrates that Nasdaq engaged in such conduct with the specific intent of monopolizing the relevant markets and submarket.

312. There is a dangerous probability that Nasdaq will succeed in its scheme to monopolize the relevant markets and submarket. Nasdaq already has a dominant share of the relevant markets and submarkets, and it has won a dominant share of all procurements worldwide for electronic trading systems over the last several years.

Due to the superior performance of its technology, MIAX posed the greatest threat to Nasdaq's dominant position, but Nasdaq has succeeded in foreclosing them, and perhaps others, from the relevant market through its exclusionary scheme, thereby foreclosing others from competing for a substantial share of the relevant markets and submarket.

313. By engaging in such conduct, Nasdaq reduced output in the relevant markets and submarket, and raised prices above competitive levels, to the substantial detriment of competition and consumers.

314. Nasdaq's anticompetitive and exclusionary conduct violates Section 2 of the Sherman Act, 15 U.S.C. § 2.

COUNT III

Section 2 of the Sherman Act (15 U.S.C. § 2) and Clayton Act Sections 4 and 16 (15 U.S.C. §§ 15 and 26)

Monopolization – Sham Litigation and Other Exclusionary Conduct

(U.S. Patent Nos. 7,921,051, 7,933,827, 7,747,506, 6,618,707 and 7,246,093)

315. Plaintiffs hereby re-allege and incorporate by reference the allegations contained in the preceding paragraphs as if fully set forth herein.

316. Nasdaq has monopoly power in the global market for high-performance electronic trading systems, in the global submarket for the sale and leasing of high-performance electronic trading systems, in the individual bid markets with financial

exchange customers, and in the global technology market for the licensed technology used in high-performance matching engines.

317. Nasdaq's patent lawsuit against MIAX is predicated upon patents procured through fraud and is objectively baseless, and no reasonable litigant could realistically expect success on the merits.

318. Defendants further misused their patents rights by knowingly asserting invalid and unenforceable patent claims, and also by misrepresenting the scope of those claims against MIAX. Defendants presented overly broad and misleading claims constructions in Nasdaq Lawsuit that are contrary to the statements that Defendants made to the USPTO during the CBMR proceedings in order to avoid invalidity, albeit unsuccessfully.

319. Nasdaq filed and has continued litigation of its baseless lawsuit to interfere directly with MIAX's business relationships. It was filed and is maintained for the purpose of foreclosing MIAX from the relevant markets and submarket and, thereby, shield its monopoly position from the competitive threat posed by a nascent competitor with superior technology. Nasdaq is using the litigation process – as opposed to the outcome of that process – as an anticompetitive weapon.

320. Nasdaq engaged in other conduct as part of its scheme to foreclose competitors from the market and shield its monopoly position from competitive threats, including:

- a. Filing sham litigation claims against another recent market entrant, IEX, that threatened Nasdaq's monopoly power;
- b. Threatening yet other suppliers with baseless patent infringement litigation;
- c. Attempting to persuade the Securities and Exchange Commission to reject the registration application of MIAX and other registration applicants on baseless grounds in an effort to exclude them from the market;
- d. Disparaging MIAX's products to potential customers by falsely representing to them that MIAX "stole" Nasdaq's trading matching engine technology; and
- e. Offering to potential customers a bundle of products, services and licenses, including electronic trading systems, under financial terms that were intended to and had the effect of protecting its monopoly position in electronic trading systems by foreclosing competitors who were unable to offer a similar bundle of products, and/or cannot profitably sell electronic trading systems at prices that are competitive to the prices at which customers are able to purchase electronic trade systems as part of a discounted bundle of products offered by Nasdaq.

321. By engaging in such conduct, Nasdaq reduced output in the relevant markets and submarket, and raised prices above competitive levels, to the substantial detriment of competition and consumers.

322. Nasdaq's anticompetitive and exclusionary conduct violates Section 2 of the Sherman Act, 15 U.S.C. § 2.

COUNT IV

Section 2 of the Sherman Act (15 U.S.C. § 2) and Clayton Act Sections 4 and 16 (15 U.S.C. §§ 15 and 26)

Attempted Monopolization – Sham Litigation and Other Exclusionary Conduct

(U.S. Patent Nos. 7,921,051, 7,933,827, 7,747,506, 6,618,707 and 7,246,093)

323. Plaintiffs hereby re-allege and incorporate by reference the allegations contained in the preceding paragraphs as if fully set forth herein.

324. Nasdaq has market power in the global market for high-performance electronic trading systems, in the global submarket for the sale and leasing of high-performance electronic trading systems, in the individual bid markets with financial exchange customers, and in the global technology market for the licensed technology used in high-performance matching engines.

325. Nasdaq's patent lawsuit against MIAX is predicated upon patents procured through fraud and is objectively baseless, and no reasonable litigant could realistically expect success on the merits.

326. Nasdaq further misused their patents rights by knowingly asserting invalid and unenforceable patent claims, and also misrepresenting the scope of those claims against MIAX. Defendants presented overly broad and misleading claims constructions in the Nasdaq Lawsuit that are contrary to the statements that Defendants made to the USPTO during the CBMR proceedings in order to avoid invalidity, albeit unsuccessfully.

327. Nasdaq filed and has continued litigation of its baseless lawsuit to interfere directly with MIAX's business relationships. It was filed and is maintained for the purpose of foreclosing MIAX from the relevant markets and submarket and, thereby, shield its monopoly position from the competitive threat posed by a nascent competitor with superior technology. Nasdaq is using the litigation process – as opposed to the outcome of that process – as an anticompetitive weapon.

328. Nasdaq engaged in other conduct as part of its scheme to foreclose competitors from the market and shield its monopoly position from competitive threats, including:

- a. Filing sham litigation claims against another recent market entrant, IEX, that threatened Nasdaq's monopoly power;
- b. Threatening yet other suppliers with baseless patent infringement litigation;
- c. Attempting to persuade the Securities and Exchange Commission to reject the registration application of MIAX and other registration applicants on baseless grounds in an effort to exclude them from the market;
- d. Disparaging MIAX's products to potential customers by falsely representing to them that MIAX "stole" Nasdaq's trading matching engine technology; and
- e. Offering to potential customers a bundle of products, services and licenses, including electronic trading systems, under financial terms that were intended to enable it to unlawfully obtain a monopoly position in electronic trading systems by foreclosing competitors who were unable to offer a similar bundle of products, and/or cannot profitably sell electronic trading systems at prices that are competitive to the prices at

which customers are able to purchase electronic trade systems as part of a discounted bundle of products offered by Nasdaq.

329. Nasdaq engaged in such contact with the specific intent of monopolizing the relevant markets alleged herein.

330. By doing so, Nasdaq's conduct reduced output in the relevant markets and submarket, and raised prices above competitive levels, to the substantial detriment of competition and consumers.

331. There is a dangerous probability that Nasdaq will succeed in its scheme to monopolize the relevant markets and submarket. Nasdaq already has a dominant share of the relevant markets and submarket, and it has won a dominant share of all procurements worldwide for electronic trading systems over the last several years. MIAX and the other competitors that were the target of its predatory campaign posed the greatest threat to Nasdaq's dominant position, but Nasdaq has succeeded in foreclosing them, and perhaps others, from the relevant markets and submarket through its exclusionary scheme, thereby foreclosing others from competing for a substantial share of the relevant markets and submarket.

332. Nasdaq's anticompetitive and exclusionary conduct violates Section 2 of the Sherman Act, 15 U.S.C. § 2.

COUNT V

**New Jersey Antitrust Act
N.J. Rev. Stat § 56:9-1 to 19**

Monopolization – Walker Process Claim

(U.S. Patent Nos. 7,921,051, 7,933,827, 7,747,506, 6,618,707 and 7,246,093)

333. Plaintiffs hereby re-allege and incorporate by reference the allegations contained in the preceding paragraphs as if fully set forth herein.

334. Nasdaq has monopoly power in the global market for high-performance electronic trading systems, in the global submarket for the sale and leasing of high-performance electronic trading systems, in the individual bid markets with financial exchange customers, and in the global technology market for the licensed technology used in high-performance matching engines.

335. Nasdaq secured U.S. Patent Nos. 7,921,051, 7,933,827, 7,747,506, 6,618,707 and 7,246,093 through knowing and willful fraud upon the PTO, then maintained and enforced these patents despite knowing of the fraud.

336. Defendants further misused their patents rights by knowingly asserting invalid and unenforceable patent claims, and also misrepresenting the scope of those claims against MIAX. Defendants presented overly broad and misleading claims constructions in the Nasdaq Lawsuit, that are contrary to the statements that Defendants made to the USPTO during the CBMR proceedings in order to avoid invalidity, albeit unsuccessfully.

337. Nasdaq has willfully maintained and abused its monopoly power in the relevant markets and submarket through its knowing and willful fraud upon the USPTO, and its maintenance and enforcement of its patents despite knowing of the fraud.

338. By engaging in such conduct, Nasdaq reduced output in the relevant markets and submarket, and raised prices above competitive levels, to the substantial detriment of competition and consumers.

339. Nasdaq's anticompetitive and exclusionary conduct violates the New Jersey Antitrust Act, N.J. Rev. Stat § 56:9-1 to 19.

COUNT VI

New Jersey Antitrust Act N.J. Rev. Stat § 56:9-1 to 19

Attempted Monopolization – Walker Process Claim (U.S. Patent Nos. 7,921,051, 7,933,827, 7,747,506, 6,618,707 and 7,246,093)

340. Plaintiffs hereby re-allege and incorporate by reference the allegations contained in the preceding paragraphs as if fully set forth herein.

341. Nasdaq has market power in the global market for high-performance electronic trading systems, in the global submarket for the sale and leasing of high-performance electronic trading systems, in the individual bid markets with financial exchange customers, and in the global technology market for the licensed technology used in high-performance matching engines.

342. Nasdaq secured U.S. Patent Nos. 7,921,051, 7,933,827, 7,747,506, 6,618,707 and 7,246,093 through knowing and willful fraud upon the USPTO, then maintained and enforced these patents despite knowing of the fraud.

343. Nasdaq further misused their patent rights by knowingly asserting invalid and unenforceable patent claims, and also misrepresenting the scope of those claims against MIAX. Defendants presented overly broad and misleading claims constructions in the Nasdaq Lawsuit that are contrary to the statements that Defendants made to the USPTO during the CBMR proceedings in order to avoid invalidity, albeit unsuccessfully.

344. Nasdaq's knowing and willful fraud upon the USPTO, as well as its maintenance and enforcement of the subject patents, and other conduct undertaken for the purpose of excluding competitors from the relevant markets, demonstrates that Nasdaq engaged in such conduct with the specific intent of monopolizing the relevant markets and submarket.

345. There is a dangerous probability that Nasdaq will succeed in its scheme to monopolize the relevant markets and submarket. Nasdaq already has a dominant share of the relevant markets and submarkets, and it has won a dominant share of all procurements worldwide for electronic trading systems over the last several years. Due to the superior performance of its technology, MIAX posed the greatest threat to Nasdaq's dominant position, but Nasdaq has succeeded in foreclosing them, and

perhaps others, from the relevant market through its exclusionary scheme, thereby foreclosing others from competing for a substantial share of the relevant markets and submarket.

346. By engaging in such conduct, Nasdaq reduced output in the relevant markets and submarket, and raised prices above competitive levels, to the substantial detriment of competition and consumers.

347. Nasdaq's anticompetitive and exclusionary conduct violates the New Jersey Antitrust Act, N.J. Rev. Stat § 56:9-1 to 19.

COUNT VII

New Jersey Antitrust Act N.J. Rev. Stat § 56:9-1 to 19

Monopolization – Sham Litigation and Other Exclusionary Conduct

(U.S. Patent Nos. 7,921,051, 7,933,827, 7,747,506, 6,618,707 and 7,246,093)

348. Plaintiffs hereby re-allege and incorporate by reference the allegations contained in the preceding paragraphs as if fully set forth herein.

349. Nasdaq has monopoly power in the global market for high-performance electronic trading systems, in the global submarket for the sale and leasing of high-performance electronic trading systems, in the individual bid markets with financial exchange customers, and in the global technology market for the licensed technology used in high-performance matching engines.

350. Nasdaq's patent lawsuit against MIAX is predicated upon patents procured through fraud and is objectively baseless, and no reasonable litigant could realistically expect success on the merits.

351. Nasdaq further misused their patents rights by knowingly asserting invalid and unenforceable patent claims, and also by misrepresenting the scope of those claims against MIAX. Defendants presented overly broad and misleading claims constructions in the Nasdaq Lawsuit, that are contrary to the statements that Defendants made to the USPTO during the CBMR proceedings in order to avoid invalidity, albeit unsuccessfully.

352. Nasdaq filed and has continued litigation of its baseless lawsuit to interfere directly with MIAX's business relationships. It was filed and is maintained for the purpose of foreclosing MIAX from the relevant markets and submarket and, thereby, shield its monopoly position from the competitive threat posed by a nascent competitor with superior technology. Nasdaq is using the litigation process – as opposed to the outcome of that process – as an anticompetitive weapon.

353. Nasdaq engaged in other conduct as part of its scheme to foreclose competitors from the market and shield its monopoly position from competitive threats, including:

- a. Filing sham litigation claims against another recent market entrant, IEX, that threatened Nasdaq's monopoly power;

- b. Threatening yet other suppliers with baseless patent infringement litigation;
- c. Attempting to persuade the Securities and Exchange Commission to reject the registration application of MIAX and other registration applicants on baseless grounds in an effort to exclude them from the market;
- d. Disparaging MIAX's products to potential customers by falsely representing to them that MIAX "stole" Nasdaq's trading matching engine technology; and
- e. Offering to potential customers a bundle of products, services and licenses, including electronic trading systems, under financial terms that were intended to and had the effect of protecting its monopoly position in electronic trading systems by foreclosing competitors who were unable to offer a similar bundle of products, and/or cannot profitably sell electronic trading systems at prices that are competitive to the prices at which customers are able to purchase electronic trade systems as part of a discounted bundle of products offered by Nasdaq.

354. By engaging in such conduct, Nasdaq reduced output in the relevant markets and submarket, and raised prices above competitive levels, to the substantial detriment of competition and consumers.

355. Nasdaq's anticompetitive and exclusionary conduct violates the New Jersey Antitrust Act, N.J. Rev. Stat § 56:9-1 to 19.

COUNT VIII

New Jersey Antitrust Act N.J. Rev. Stat § 56:9-1 to 19

Attempted Monopolization – Sham Litigation and Other Exclusionary Conduct

(U.S. Patent Nos. 7,921,051, 7,933,827, 7,747,506, 6,618,707 and 7,246,093)

356. Plaintiffs hereby re-allege and incorporate by reference the allegations contained in the preceding paragraphs as if fully set forth herein.

357. Nasdaq has market power in the global market for high-performance electronic trading systems, in the global submarket for the sale and leasing of high-performance electronic trading systems, in the individual bid markets with financial exchange customers, and in the global technology market for the licensed technology used in high-performance matching engines.

358. Nasdaq's patent lawsuit against MIAX is predicated upon patents procured through fraud and is objectively baseless, and no reasonable litigant could realistically expect success on the merits.

359. Nasdaq further misused their patents rights by knowingly asserting invalid and unenforceable patent claims, and also misrepresenting the scope of those claims against MIAX. Defendants presented overly broad and misleading claims constructions in the Nasdaq Lawsuit, that are contrary to the statements that Defendants made to the USPTO during the CBMR proceedings in order to avoid invalidity, albeit unsuccessfully.

360. Nasdaq filed and has continued litigation of its baseless lawsuit to interfere directly with MIAX's business relationships. It was filed and is maintained for the purpose of foreclosing MIAX from the relevant markets and submarket and, thereby, shield its monopoly position from the competitive threat posed by a nascent competitor with superior technology. Nasdaq is using the litigation process – as opposed to the outcome of that process – as an anticompetitive weapon.

361. Nasdaq engaged in other conduct as part of its scheme to foreclose competitors from the market and shield its monopoly position from competitive threats, including:

- a. Filing sham litigation claims against another recent market entrant, IEX, that threatened Nasdaq's monopoly power;
- b. Threatening yet other suppliers with baseless patent infringement litigation;
- c. Attempting to persuade the Securities and Exchange Commission to reject the registration application of MIAX and other registration applicants on baseless grounds in yet another a transparent effort to exclude them from the market;
- d. Disparaging MIAX's products to potential customers by falsely representing to them that MIAX "stole" Nasdaq's trading matching engine technology; and
- e. Offering to potential customers a bundle of products, services and licenses, including electronic trading systems, under financial terms that were intended to enable it to unlawfully obtain a monopoly position in electronic trading systems by foreclosing competitors who were unable to offer a similar bundle of products, and/or cannot profitably sell electronic trading systems at prices that are competitive to the prices at

which customers are able to purchase electronic trade systems as part of a discounted bundle of products offered by Nasdaq.

362. Nasdaq engaged in such contact with the specific intent of monopolizing the relevant markets alleged herein.

363. By engaging in such conduct, Nasdaq reduced output in the relevant markets and submarket, and raised prices above competitive levels, to the substantial detriment of competition and consumers.

364. There is a dangerous probability that Nasdaq will succeed in its scheme to monopolize the relevant markets and submarket. Nasdaq already has a dominant share of the relevant markets and submarket, and it has won a dominant share of all procurements worldwide for electronic trading systems over the last several years. MIAX and the other competitors that were the target of its predatory campaign posed the greatest threat to Nasdaq's dominant position, but Nasdaq has succeeded in foreclosing them, and perhaps others, from the relevant markets and submarket through its exclusionary scheme, thereby foreclosing others from competing for a substantial share of the relevant markets and submarket.

365. Nasdaq's anticompetitive and exclusionary conduct violates the New Jersey Antitrust Act, N.J. Rev. Stat § 56:9-1 to 19.

PRAYER FOR RELIEF

WHEREFORE, MIAX prays for judgment in its favor against Nasdaq granting MIAX the following relief:

A. That the Court determine that Nasdaq acted unlawfully to maintain and/or to obtain monopolies in the relevant markets and submarkets by engaging in acts of patent misuse, sham litigation, and other predatory conduct as alleged herein, in violation of Section 2 of the Sherman Act, 15 U.S.C. § 2, and that each of these violations have injured Plaintiffs' businesses and property, as well as competition itself in the relevant markets.

B. That the Court determine that Plaintiffs have been injured in their property and business and that Plaintiffs will continue to be irreparably damaged in their property and business by the aforesaid anticompetitive and monopolistic conduct unless enjoined by this Court.

C. That the Court award Plaintiffs compensatory damages, trebled as provided in the Sherman and Clayton Acts, plus such injunctive other relief as may be just and equitable.

D. That this Court award MIAX its reasonable attorneys' fees, expenses and costs in this action and CBMR proceedings.

E. That this Court grant MIAX such other and further relief as this Court may deem just and proper.

JURY DEMAND

MIAX demands a trial by jury on all claims and issues so triable.

Dated: August 31, 2021

REED SMITH LLP

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/s/ R. Eric Hutz

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